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THE

NEW-YORK
JOURNAL OF MEDICINE,

AND THE

COLLATERAL SCIENCES.

EDITED BY

S. S. PURPLE, M. D., AND STEPHEN SMITH, M. D.

> Verumque est, ad ipsam curandi rationem nihil, plus conferre, quam experientiam.
>
> CELSUS.

VOL XIV. . . . . NEW SERIES.

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TO READERS AND CORRESPONDENTS.

☞ The author of each original communication published in this Journal, if desired, will receive twenty copies in sheets, provided a request to that effect be made upon either manuscript or proof, when handed in. All arrangements for extra copies, in pamphlet form, must be made directly with the printers, Messrs. Holman, Gray & Co.

Correction.—We regret to find, in the last number of this Journal, page 393, that we have misquoted Dr. Gross in regard to the frequency of calculous diseases in colored people. The sentence referred to should have read, Dr. Gross considers colored people "remarkably exempt from calculous complaints."

The following works have been received:—

The Transactions of the American Medical Association. Instituted 1847. Vol. vii. New York: Charles B. Norton, 1854. 8vo. pp. 668. (From the Committee of Publication.)

The Microscopic Anatomy of the Human Body, in Health and Disease. Illustrated with numerous drawings in color. By Arthur Hill Hassall, M. B., author of a "History of the British Fresh-water Algæ, etc., etc. With additions to the Text and Plates, and an introduction, containing Instructions in Microscopic Manipulations. By Henry Van Arsdale, M. D. In two volumes, vol. i. New York: Samuel S. & William Wood, 1855, pp. 560 and 169. (From the Publishers.)

Principles of Physiology, designed for the use of Schools, Academies, Colleges and the General Reader, comprising a familiar explanation of the structure and functions of the organs of Man. Illustrated by comparative reference to those of the inferior animals. Also, an Essay on the Preservation of Health. With fourteen quarto plates and over eighty engravings on wood, making in all nearly two hundred figures. By J. C. Comstock and B. N. Comings, M. D. New York: Samuel S. & William Wood, 1855. 4to., pp. 110. (From the Publishers.)

A Practical Treatise on Foreign Bodies in the Air-passages. By S. D. Gross, M. D., Professor of Surgery in the University of Louisville, etc., etc. With illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 468. (From the Publishers.)

☞ *A Review of this work will appear in our next number.*

Nature in Disease, illustrated in various Discourses and Essays. To which are added Miscellaneous Writings, chiefly on Medical Subjects. By Jacob Bigelow, M. D., Professor of Materia Medica in Harvard University, etc., etc. Boston: Ticknor & Fields, 1854. 12mo. pp. 391. (From the Publishers.)

A Dictionary of Medical Terminology, Dental Surgery, and the Collateral Sciences. By Chapin A. Harris, M. D., D. D. S., Professor of the Principles of Dental Surgery in Baltimore College, etc., etc. Second edition, carefully revised and enlarged. Philadelphia: Lindsay & Blakiston, 1855. 8vo. pp. 800. (From the Publishers.)

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Report of the Select Committee of the Senate of the United States on the Sickness and Mortality of Emigrant Ships. August 2, 1854. Washington: 1854. 8vo. pp. 147. (From Hon. Hamilton Fish.)

Diseases and Injuries of Seamen: With Remarks on their Enlistment, Naval Hygiene, and the Duties of Medical Officers. By G. R. B. Horner, M. D., Surgeon U. S. Navy. Philadelphia: Lippincott, Grambo & Co., 1854. 12mo. pp. 252. (From the Publishers.)

Positive Medical Agents: Being a Treatise on the New Alkaloid, Resinoid, and Concentrated Preparations of Indigenous and Foreign Medical Plants. By Authority of the American Chemical Institute. New York: C. B. Norton, 1854. 8vo. pp. 304. (From B. Keith & Co.)

Transactions of the Medical Society of the State of Pennsylvania, at its Annual Session held in the city of Pottsville, May, 1854. Published by the Society. Philadelphia: 1854. 8vo. pp. 171. (From the Publishing Committee.)

Transactions of the Illinois State Medical Society for the year 1854. Chicago: J. F. Ballantyne, 1854. 8vo. pp. 112. (From the Publishing Committee.)

Congestion of the Brain in Cholera. Its Etiology, Diagnosis and Treatment. By James M. Newman, M. D., Health Physician. Buffalo, 1854. 8vo. pp. 25. (From the Author.)

Insanity in Italy. By John M. Galt, M. D., Superintendent and Physician of the Eastern Asylum of Virginia. [Reprinted from the American Journal of Insanity.] Utica: 1854. 8vo. pp. 19. (From the Author.)

An Introductory Lecture delivered at the Pennsylvania College, Medical Department, Philadelphia, October 13, 1854. By Alfred Stille, M. D., Professor of the Theory and Practice of Medicine. Philadelphia: 1854. 8vo. pp. 16. (From the Author.)

We are in receipt of our usual exchange journals.

☞ Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to Drs. Purple and Smith, Editors of the New York Journal of Medicine, 183 Hudson-street, *New York*. Persons at a distance may direct parcels, or exchanges, *paid* as above, under cover, to M. J. B. Bailliere, Rue Hautefeuille, *Paris;* or H. Bailliere, 219 Regent-street, *London;* or Lindsay & Blakiston, *Philadelphia;* or Ticknor & Co., *Boston.* The attention of Correspondents is respectfully requested to the above, as the Publishers are frequently subjected to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the Proprietors.

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THE NEW-YORK
JOURNAL OF MEDICINE

FOR JANUARY, 1855.

PART FIRST.

ORIGINAL COMMUNICATIONS.

Art. I.—*Observations on Typhus Fever.* By John W. Sterling, M. D., formerly Physician-in-Chief of the Marine Hospital, New York.

Can Typhus Fever be quarantined? or, *Is it possible to prevent that form of Typhus, which is usually styled* Ship Fever, *from being introduced into our cities by quarantine restrictions?* It is to the investigation of this question that the present paper will be principally devoted.

During the year 1852, upwards of 300,000 aliens arrived in the city of New York, of which number 118,611 were natives of Germany, and 118,131 of Ireland. The winter of this year was a very severe and sad one to many emigrants. Several passenger vessels, after having accomplished the greater distance of the voyage, in consequence of baffling winds, stress of weather, and shortness of provisions, were compelled to put back to Liverpool, where their half-famished and exhausted passengers were oftentimes obliged to reëmbark without being allowed time to recruit their shattered forces. The fatigues of this triple voyage, together with the poverty and destitution of many, of the

Irish emigrants especially, rendered their condition, when landed on our shores, truly deplorable. Numbers of them did not possess even a change of garments, so that attention to cleanliness, so essential to the preservation of health and the prevention of disease, had been too frequently neglected. Nevertheless, very few emigrants died during the passage, but many were landed at the Marine Hospital in a state of extreme exhaustion, with Typhus, or moribund. Of those who were permitted to proceed to the city, still greater numbers were subsequently sent down to Quarantine, at different times, by the agent of the Board of Health, with Typhus fever, contracted either on shipboard, or in the city; which disease, in consequence of the crowded condition of the wards of the Hospital, soon assumed pestilential malignancy: 3,040 were the subjects of it, and 513 its victims.*

As the question before us bears strongly upon the subject of the utility of quarantines, a subject at present occupying, more or less, the minds not only of the medical profession, of those engaged in commerce, and, doubtless, also of those who are, or whose friends may be, the tenants of a lazaretto; and as opportunity was afforded me, during the year under consideration, of collecting statistical data with a view of endeavoring to ascertain the period of *Incubation* of *Typhus* fever, I undertook to investigate this subject, not expecting to solve it, but with the hope of presenting some facts which might promote its solution.

With this object in view, I selected, from among the vessels which arrived at Quarantine, those from which the most

---

* *Report of Commissioners of Emigration*, for 1852, p. 18.

There is a discrepancy here with the Table in the Appendix of Admissions, e.c., at Marine Hospital, as this Table shows there were of—

Febris, - - - -	1,086 cases and	63 deaths.
" Typhus, - -	2,527 "	513 "
Pneumonia Typhoides, -	40 "	49 "

This apparent incongruity is explained, by many of the cases of simple fever assuming the form of Typhus, and of the Typhus becoming complicated with Pneumonia, after admission.

TABLE I.

A Table of Sick Emigrants, admitted into the Marine Hospital directly from sundry vessels lying at Quarantine, and indirectly from said vessels after being landed at New York, from Jan. 12th to April 30th, 1852.

NAMES OF VESSELS.	Tonnage from Custom House.	Ports sailed from.	Number of alien Passengers.	Number of deaths during the voyage.	Anchored at Quarantine.	Number of sick sent to Mar. Hosp'l from ship.	Diseases of passengers sent to M. H. directly from vessels.		Number of sick sent from city of New York to Marine Hospital.		Between what dates sent from city to Marine Hospital.	Dates when the greatest number were sent from the city to M. H
	Tons.				1852.		Typhus.	Other diseases.	Typhus.	Other diseases.	1852.	1852.
Miles	266	Hamburg	102	2	Jan. 12	12	9	3				
Great Western	1,443	Liverpool	791	8	" 14	115	60	55	92	30	Jan. 18 to April 14	Jan. 28
Yorkshire	996	"	429	9	" 15	11	3	8	18	5	" 22 — " 30	Feb. 7
Rhein	644	Rotterdam	247	2	" 16	5	3	2	10	8	" 18 — " 3	April 3
Reciprocity		Liverpool	372	7	" 24	11	5	6	39	6	" 29 — " 29	Feb. 5
E. C. Scranton	1,186	"	568	7	" 24	10	6	4	57	15	" 27 — " 6	" 2
Ashburton	1,015	"	422	9	" 25	10	2	8	35	8	Feb. 4 — " 26	" 20
Chasca		"	258	1	" 26	18	9	9	34	4	Jan. 28 — " 24	Jan. 28
Guy Mannering	1,418	"	439	1	Feb. 1	8	7	1	54	14	Feb. 2 — " 27	Feb. 7
Liverpool	1,077	"	243	4	" 15	14	4	10†	10	13	" 18 — " 29	Mar. 2
S. Morse		Glasgow	116	5	" 15	5	1	4‡	2		Mar. 8 — " 16	
A Z		Liverpool	216	8	" 16	26	3	23§	10	5	" 5 — " 24	
Everthorpe	424	Galway	166	11	" 20	28	20	8	20	7	" 6 — " 27	Mar. 12
Jenny Lind		Liverpool	203	4	" 24	12	10	2	12	5	Feb. 28 — " 29	
Princeton	1,136	"	350	3	March 2	5	5		20	4	Mar. 8 — " 26	Mar. 13
Isaac Wright	1,161	"	519	7	" 8	23	14	9	66	8	" 10 — " 27	
Garrick	895	"	390	6	" 14	12	5	7	10	1	" 27 — " 20	
Sheridan	895	"	412	0	" 30	7	1	6		5	April 1 — " 19	
Constitution	1,327	"	647	2	" 31	8	1	7	1	6	" 3 — " 29	
			6,890	96*		340	168	172	490	144		

* The ratio of mortality on board of these ships was derived from their *manifests* at the Office of the Commissioners of Emigration. It is a matter of surprise, in view of the hardships endured at sea from boisterous weather, that it was so small, being only $\frac{96}{6890}$ or $1\frac{3}{8}$ per cent.

† 9 of these were Variola.

‡ 4 ditto.

§ 19 ditto.

of the sick were sent, *directly* from their anchorage and *indirectly* from the city, to the Marine Hospital, during the first four months of the year 1852; which, with other data bearing upon the latency of Typhus, and derived from the Register of the Institution, are arranged in the preceding table (No. I).

On inspecting the preceding table, we perceive that 168 Typhus patients were admitted into the Marine Hospital directly from the vessels anchored at Quarantine, and 490 indirectly, after said vessels had landed their passengers in the city, and that the latter were sent down at different intervals of from two days to three months after their arrival. Now, there can be but little doubt that many of those, sent from the city to the Marine Hospital soon after their arrival, had the seeds of Typhus fever inherent in their system while on shipboard. It is doubtful, however, whether, in those who were sent down after a lapse of six weeks, or two months, this fever was incubated during the voyage, especially, as will appear in the sequel, as other *Fever Nests* were constructed in the city, which became a prolific source of this malady.

On examining the last column of the Table, we will find that by far the greater number of these sick passengers were admitted into the Marine Hospital in two or three weeks after being landed from these vessels. Hence, it is probable, we will not deviate far from the truth, by presuming that the limit of the incubation of Typhus seldom exceeds the latter period. Much, however, will depend upon the degree of concentration of the infectious poison, as well as the susceptibility of the patient.* In those who are in a state of great destitution, we must expect to find a less sound state of constitution, a more speedy access of disease, as well as a more violent degree of intensity; whilst those less destitute and impoverished, have greater powers of physical endurance, which will enable them to resist the pernicious effects of the deleterious agent for a longer period, or surmount it entirely.

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* Dr. Christison, in speaking of the effects of different degrees of concentration of fever poison in the wards of the Edinburgh hospitals, says that the virulence of the infection is in proportion to the number of the fever patients to the others, and the time of exposure to it; the nurses preceding the clerks and house surgeons, these the dressers, and these the general students and physicians.

The following interesting fact we find related by Dr. Joseph M. Smith, in his valuable paper on "Hygiene," published in Vol. iii. of the Trans. Amer. Med. Association.

"Dr. Harty," he says, "relates that a woman was confined by her husband for weeks, in a small, dark closet, without light or air, and without a change of clothes. The two gentlemen who liberated her were overpowered, while doing so, by the effluvia of the place. At the end of a week both sickened with fever; one died, the other recovered. Yet the woman who created this infectious atmosphere, though exposed to it for weeks, escaped. This example shows that the Typhus poison may not only produce the disease in one week from the time of exposure, but also, that some become gradually inured to it, their system, apparently, accommodating itself to its effects, and thereby resisting its pernicious influence.* And Dr. Bowie tells us that he "once went into a room where a woman was lying with Typhus fever, a small underground apartment, the window of which opened into a confined area or yard. To this situation she had been confined several days; the window and door were closed; none of the excretions had been removed. On entering the room, I (Dr. Bowie) was almost suffocated; the stench was intolerable. I rushed to the window and threw it open before I could speak a word. After paying my visit, when I got into the street, I was seized with headache, giddiness, and sickness. I was so ill the next morning that I was unable to rise, and was confined to my bed for several days." In this instance the infectious atmosphere, in which a Typhus patient was immersed, was well nigh producing a fever on Dr. Bowie almost instantaneously; and it is very possible it would not have required much longer exposure to it, ere the disease would have been fully developed.

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* See Report to both Houses of Parliament by the General Board of Health. Lond., 1849.

Physicians differ, however, with regard to the period that the germs of Typhus may remain dormant in the system, without manifesting themselves in the form of actual disease. To all other epidemic diseases the extra limits of incubation may be regarded as determined. Small-pox, scarlatina and measles have this period settled. With regard to the period of latency of the plague (Typhus gravissimus), Dr. Aubert says it never exceeds eight days; M. Hammont, eight or nine. Segur Dupeyren limits the extreme period of incubation of the plague to eleven, while Clot Bey fixes it at from three to six days.* Yellow fever develops itself in from two to twelve days, after infection; and pestilential Cholera in from one to ten days.† Indeed, I have had reason to believe, from my experience at the Marine Hospital, that Cholera may ensue within twelve hours after exposure.

Could the term of incubation of Typhus be ascertained with equal precision, it would afford an index for the period of probation of vessels, or rather their passengers, arriving with this disease, at Quarantine; but as Dr. Christison and several other medical authors of high repute extend this period to many months, it must remain doubtful how long it will be necessary to sequester an individual who has been exposed to its miasm, ere it will be considered safe, by those who regard this disease as contagious, to liberate him from quarantine restrictions. With regard to the *contagious character* of Typhus, it evidently produces its similitude; but whether it will do so in a pure atmosphere, where strict attention is paid to ventilation and cleanliness, is a question, one would suppose, has been almost positively decided in the negative.

With regard to its *infectious character*, this is evidently increased and the malignancy of the disease highly exalted by the concentration of the poison which engenders it.

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* See Encyclographie des Sc. Med., tom. xvi., 5th Series, t. ii., p. 189, and 5th Series, tom. xii., Brit. For. Med. Rev., vol. xvi., for 1843.

† N. Y. Med. Jour., vol. vii., p. 217.

Dr. Marcet* once collected a number of cases of Typhus, in one of the wards of Guy's Hospital, for the purpose of clinical instruction, when all at once the disease began to spread to other patients and the nurses, although it had not done so when the cases were distributed throughout the hospital, and it ceased to do so when they were again distributed.

"The liability of nurses and physicians," observes Dr. Joseph M. Smith, in his Report on Hygiene, "of contracting fever in an infirmary, is generally proportionate to the number of Typhus cases admitted into the wards." Dr. Christison says that "it has been invariably remarked, that the admission of a few cases into a general ward is attended with little or no risk of the fever passing to the other inmates of the wards. But so soon as the cases exceed considerably a third of the whole, then the fever begins to show itself among the domestic attendants, and to appear among the other patients." Similar observations have been made in the N. Y. Hospital. It has been remarked, by an English writer, in reference to the admission of fever patients into general hospitals, that "it has been found safer and better to have them scattered as single cases, throughout different wards, instead of congregating them into one," and he adds that "this plan has been adopted in more than one of the London hospitals, and we have no cause to regret its adoption." (*Med. Chirurg. Rev.*, No. 105, p. 229.) Dr. Leeson, physician of St. Thomas' Hospital, in his examination before the Sanitary Committee (see *Report of Board of Health of London*, previously cited), says: "Our present practice, contrary to that of former years, is to place our typhoid cases indiscriminately among other patients, and we then depend upon good ventilation for the protection of these patients." Dr. Monro, Dr. Roberts, senior physician of St. Bartholomew's Hospital,

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* See Med. Chirurg. Review.

Dr. Currie, of Liverpool, and Dr. Robert Percival, of Dublin, with many other hospital physicians, have fully tested the benefits arising from the dispersion of fever patients.

This may answer very well where there is no overcrowding, and facilities for thorough ventilation; but, during very cold weather and where the cases of fever are numerous, it cannot be done with safety to the other patients. There must, then, be fever wards, unless we wish all to be exposed to the infectious atmosphere of Typhus. The winter of 1852 was excessively cold; so much so, that the liquid medicines would frequently freeze on the tables, and notwithstanding ventilation, short of freezing the patients, was freely resorted to, yet the atmosphere of the wards was highly infectious. During this year, 8,887 patients were treated at the Marine Hospital, of which, the largest number at one time was 1,409, and the average, from January 24th to April 24th, was 1,062. Hence there was overcrowding of the wards, and ventilation could not prevent the atmosphere, around Typhus patients especially, from becoming highly pestiferous. From the 1st of June until the latter part of November, or until cold weather sets in, Typhus is not rife in the Marine Hospital, and then, during this interval, the dispersion of such cases throughout the wards is attended not only with safety but benefit.

It would put a stop to a great deal of caviling, or prevent frequent misconception, if the terms "infection" and "contagion" were precisely defined, and universally admitted by the profession. Mons. Rouchoux says: "*Contagion* consists of every communication of disease by a virus or scab, or some pus, *without regard to the proportion of the substances. Infection* is analogous to poisoning. The fevers of marshes and the Typhus afford examples of infection; variola and vaccina are contagious diseases; the virus by which these diseases are transmitted acts with the same energy, whether the dose be small or great." Here the line of demarcation between contagion and infection is drawn with a bold stroke. It is precise and intelligible.

Dr. Joseph M. Smith, in his report on Hygiene, lays down the following propositions, which he illustrates scientifically, and demonstrates conclusively:

"Typhus fever originates from human excretions.

It may arise from the excretions of persons in health.

It may arise from the excretions of persons in disease."

There were, as has been already stated, 3,040 cases of typhus fever at the Marine Hospital, during the year 1852; but this disease was not confined to the passengers who arrived in the vessels specified in our first table. Many cases originated in the hospital, and there were other sources from which a great number were derived. *Fever Nests* were fabricated in the city of New York, where typhus was hatched as well as on shipboard.

Let us look at the following table, premising that the Commissioners of Emigration are directed by law to receive into the Marine Hospital, at Quarantine, all cases of infectious and contagious diseases (itch and syphilis excepted) sent to it by the authority of the Board of Health of the city of New York.

TABLE II.

Admissions into the Marine Hospital during the first four months of the year 1852.

Admitted.	From Vessels.	From City.	From other sources*	Total.
January	204	846	28	1,078
February	91	1,058	44	1,193
March	83	870	35	988
April	57	968	25	1,050
	435	3,742	132	4,309

From which table we perceive, that of 4,309 sick emigrants, admitted into the Marine Hospital during the first four months of this year, only 439 were sent directly from vessels lying at Quarantine, whilst 3,742 were sent down to it from the city by order of the Board of Health, of which latter number, 634 only, as appears by our first table, came passengers in the vessels therein specified, and of the remainder, not a few with Typhus had been much longer in the country; so that it is evident that other *foci* of this malady existed distinct from those which were eliminated on shipboard, and no less pestiferous.

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* Principally from Staten Island, by order of the Health Officer.

According to the Report of the Commissioners of Emigration, for 1852, p. 8, "From the middle of November, 1851, until near May, 1852, the crowd of destitute persons, many aged, many with children, thrown upon our shores in a season of unusually early, and severe, and protracted winter, made much larger provision for their aid and shelter imperatively necessary; large additional buildings in Canal and Centre streets were procured on hire or lease, and fitted up for the reception of such applicants for relief. Before the end of January, these were found insufficient, and a very large unoccupied church in Duane street was procured for four months, as also a spacious brick building on Third avenue."

From the register kept of the numbers thus aided, it appears that there were

Lodged during the month of January,	30,872	emigrants.
" " " " " February,	31,126	"
" " " " " March,	28,074	"
" " " " " April,	23,210	"

making the whole number lodged, during these four months, 113,282. From information derived from Mr. Fagan, the Superintendent, the only building occupied by these emigrants, during the month of January, was Nos. 25 and 27 Canal street, so that it must have afforded lodgings for 30,872 individuals* of various ages; the greatest number lodged on any single night (the 14th January) being 1,516, and the nightly average for the month, 996. Many were the obstacles opposed to the Commissioners in their efforts to obtain suitable shelter for these unfortunates, ere they succeeded in procuring the additional buildings specified. Hence, whatever may have been the amplitude of the accommodations subsequently to the first of February, there evidently was overcrowding during the previous month. Here, then, at least one or more *Fever Nests* were evidently constructed; here must have been evolved, from the skin and lungs of these masses of human beings, an atmosphere sufficiently noxious to have engendered a highly malignant malady, and from these receptacles issued many of the most formidable cases of the Typhus that were sent to the Marine Hospital. It would probably be erroneous to infer that the 113,282 emigrants nightly lodged, during the first four months of the year, were so many distinct individuals; for the census seems to have been taken diurnally and footed up at the close of each month, so that many of them were numerically repeated in the register. Furthermore, we were informed by some of the patients themselves, that a certain portion were lodged, night after night, even for weeks, so that they must have became more or less saturated with the miasmatic atoms in which they were imbedded, until disease was fully manifest. In conjunction with this cause, we must consider the despondency arising from indolence and destitution, the habits of uncleanliness to which they were too often addicted, and the effluvia arising from other effete matters, besides those of the lungs and skin, as so many adjuvants to the engendering and fostering of disease. In short, here were sufficient materials for the incubation of Typhus, without calling in the aid of foreign importation, under the title of "*Ship Fever*," to account for its origin.

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* I can scarcely conceive it possible that all these persons could have been lodged in the building in Canal street. It is more probable that the building in Centre street must have received a portion of them during this month, and even admitting this, there must still have been much crowding, for, according to Mr. F., neither of them could conveniently lodge more than five hundred.

From the bodies of human beings there are continually emitted atoms, which, if retained within the organism, would produce disease and endanger life. Dr. Haller estimated the quantity of excrementitious matter evolved from the lungs and skin of a single adult, in twenty-four hours, at eight pounds. Dr. Joseph M. Smith computes the daily average of the cutaneous and pulmonary exhalations at forty ounces. Now, if we take the one half of this for the night, or twelve hours, the quantity would be twenty ounces for each individual, and which, for nine hundred and ninety-six persons, the nightly average of lodgers in the tenement in Canal street, during the month of January, the quantity of effete matters thrown off from the lungs and skin for this month would have amounted to thirty-eight thousand five hundred and ninety-five pounds avoirdupois, exclusively of the excrementary matters of urine and feces, which, doubtless, were not permitted to remain in the lodging-house. It is not very probable that, during this cold month, the ventilation was sufficiently free to carry off all the effete matters thrown off from the skin and lungs of these lodgers, or even the greater portion of it. The lodging-rooms must have been quite as much crowded as the between-decks of the Great Western, the ship from which the greatest number of sick was landed at Quarantine, and perflation could not have been more thorough in its low locality than on the turbulent billows of the boundless ocean; and if under such circumstances, at least not more conducive to health, Typhus was generated, is it necessary to resort to the supposition of the contagiousness of "Ship Fever" to account for the development of this malady?

Dr. Angus Smith has shown that, when the vapor which condenses on the walls and windows of a room, in which large numbers of persons are congregated, is examined, it is found to be impregnated with animal matter in a high state of putrefaction. The effect of respiring, over and over again, air holding such noxious matter in solution, is commonly experienced to be headache, giddiness, languor, nausea, and vomiting, and, if the breathing of such air be long continued, it may poison the blood to such a degree as to produce fever.

Such being admitted facts, we cannot avoid the conclusion that the congregation of so many thousands of individuals in a limited space, often amid accumulated filth, and in localities by no means the most eligible for health, must have produced noxious miasms, well calculated to engender and foster disease, or create those *Fever Nests* from which most of the Typhus patients were derived who were admitted into the Marine Hospital during the first third of the year 1852, and who were far more numerous than the sick landed directly from vessels. And the latter fact is quite sufficient of itself to prove that quarantine restrictions alone cannot prevent the introduction of Typhus into our cities. To do this, as well as to arrest its propagation, we must resort to preventive measures at home, and this is most effectually done by municipal sanitary regulations, strictly enforced. The best security against the spread of epidemic fevers is an abundant and constant supply of pure air. It is not so much by contact of the healthy with the diseased that Typhus is propagated, as it is by exposure of those who are susceptible to an atmosphere infected by the diseased. "Cleanliness and ventilation," says Dr. Christison, "will speedily extinguish any epidemic;" and it is quite as true that the prevalence and mortality of Typhus are in a direct ratio to the low sanitary condition of a community. The exhalations from the human being, when brought into contact with pure air, blend with it, are diffused, and dispersed by its currents; but when confined in the crowded tenements of the poor, which are generally located in narrow streets, lanes, alleys, courts, and in the most filthy districts of a city, or pent up in close, unventilated rooms, they are retained, accumulate, and, by concentration, become highly deleterious.

Furthermore, we cannot refrain from noticing the necessity for a more liberal supply of pure water, as well as pure air, among the sanitary measures which should be adopted by our Board of Health, or municipal authorities, in order to prevent the propagation of epidemic fevers, from whatever source they may originate. One thing is evident, among the more destitute emigrants, from specimens daily exhibited at the distributing Office of the Commissioners in the Park, where we often meet with contagious and infectious diseases of every kind, that personal cleanliness is sadly neglected, and it is truly a rank offense. Yet small blame is to be attached to the delinquents, for, unless they be washed by the rain and dried in the sun, they enjoy very few facilities for comfortable ablution. In Paris, where more attention is paid to personal cleanliness, and less drunkenness prevails among the lower class of citizens than in any metropolis in Christendom, pure water is to be had without money and without price. There fountains spout at convenient intervals, and the river Seine, as well as numerous baths, afford ample means for ablution. But in New York, how closely is the supply of this prime comfort of life and promoter of health withheld from the poor stranger and wayfarer. Probably there is no city in the world more bountifully provided, yet more niggardly served, with pure water than New York, I mean so far as the denizen of our streets or the pedestrian is concerned. To be sure, impaled fountains play sometimes in our parks, and soda water bubbles at almost every corner; but the pure, refreshing beverage, since the old-fashioned pumps were removed, is difficult of access. The hydrants at the corners, unless in case of fire, or for washing the streets, are to the thirsty stranger and pedestrian hermetically sealed, as if to compel them to resort to the soda water fount, or bar-room, to allay their thirst with drinks which are, at least, more expensive or pernicious, and thus, by being unwilling, or too diffident, to ask for that pure and cooling draught which would refresh and invigorate them, they are oftentimes led into an evil habit, which otherwise they might resist.

If, then, we desire to promote the public health, and prevent the propagation, if not the origin, of epidemic diseases in our midst, we must have an abundant supply of pure water, easy of access; plenty of fresh air, and room to breathe it freely; cleanliness, personal and municipal, and permit all immigrants to enjoy the benefit of these *non-naturals*, facetiously so called, freely.

Art. II.—*An account of the Cases of Dislocation of the Femur at the Hip-joint treated by Manipulation alone, after the plan proposed by* W. W. Reid, M.D., *of Rochester, which have occurred in the New York Hospital during the past two years.* By Thomas M. Markoe, M. D., one of the Attending Surgeons.

In the "Transactions of the Medical Society of the State of New York, during its annual session held at Albany, February 3d, 1852," is published a paper by William W. Reid, M. D., of Rochester, N. Y., on "Dislocation of the femur on the dorsum ilii, reducible without pullies or any other mechanical power," in which it is the object of the writer to show that this displacement can be remedied "by flexing the leg on the thigh, carrying the thigh over the sound one, upward over the pelvis, as high as the umbilicus, and then by abducting and rotating it."

The fact that luxations of the hip-joint might be reduced by manipulations, not requiring forcible extension by pullies or other mechanical contrivance, seems to have presented itself to the mind of several writers both of ancient and of modern times. The idea would appear sometimes to have been suggested by accident, and sometimes to have been the result of reasoning on the mechanism of the joint and its displacements. Such a suggestive accidental reduction occurred in the hands of Dr. Physick, and is related in Dorsey's Surgery. A patient was the subject "of dislocation of the femur directly backwards, and after very powerful efforts had been made to effect the reduction by extension, Prof. Physick, conjecturing that the head might be confined in a slit in the capsular ligament, discontinued the extending force entirely, and then, with no more force than that of his own hands, abducted the thigh, when the bone instantly slipped into its place."

A similar occurrence took place in our hospital, about the time of the introduction of the use of chloroform, in a patient with dislocated hip, under the care of Dr. Jno. C. Cheesman. While the preparations for applying mechanical force were being made, Dr. C. made some preliminary movements of the joint, while the patient was fully under the influence of chloroform, and, unexpectedly, the head of the bone slipped into its proper place. Dr. Nathan Smith, Prof. of Surgery in Yale College, succeeded in reducing a luxated femur, by manipulating, with the thigh and leg used as a lever, after the usual plan had failed. It would seem from the report of this case, which, however, is made from memory by his son, Dr. Nathan R. Smith, that it was a deliberate and prearranged plan of procedure, though the considerations which led to its adoption are not mentioned in the record.

Chelius, in his work on Surgery, gives an outline of the views of four writers, who have proposed to effect the reduction of the dislocated hip by the hands alone of the surgeon and his assistants, and without the aid of pullies, or, indeed, of any forcible extension. Three of these gentlemen, Wattman, Kluge, and Rust, have described methods not very different from each other, which essentially consist of moderate extension with the hand, combined with movements of rotation of the axis of the limb, adduction, flexion, etc., but with the addition of force applied by a band passed around the upper part of the limb, which is committed to an assistant, and, in the different forms of dislocation, is so applied as to lift the head of the bone from its unnatural resting-place, while the other movements made with the shaft of the limb give an opportunity to the muscles, stretched by the luxation, to draw the head back into the acetabulum. Another surgeon, referred to by Chelius, Colombat, speaks of a method which he has always employed with success, in which the patient stands at a table leaning forward with his chest upon it, and the surgeon, standing behind, bends the knee with one hand, and makes the various movements of the hip-joint, while, with the other hand on the ham, he makes gradual extension by pulling downwards. By this manœuvre, he states that he dislodges the head of the bone, and without any force accomplishes its reduction. In Casper's Wochenschrift for Nov., 1849, there is an account given by Dr. Fischer, of Cologne, of his mode of reducing luxations of the hip, which consists in flexing the femur on the trunk, and then making rotation of the limb, conjoined with adduction, or abduction, as the head of the bone is on one side or the other of the acetabulum. In the *N. Y. Journal of Medicine* for March, 1852, a Dr. Mayr is spoken of as having made use of this procedure of Dr. Fischer, without being aware of Dr. F.'s published statement.

Dr. Reid, in his paper, gives us an account of his observations on this subject, which appear to have been made entirely independent of any knowledge of the previous opinions of other writers. He speaks of his early impressions, on seeing the management of some cases of dislocated hip after the usual method, and gives his reasonings and reflections and experiments, on the muscular actions and the mechanical forces which were concerned, or might be employed, in the production and in the reduction of these displacements. He describes the steps by which he was led to the adoption of his mode of operation, and, what is most to the purpose, he gives five cases in which the operative procedure, to which he was led by reasoning, was successfully employed. It is no part of the object of this communication to criticise or to eulogize Dr. Reid's paper; but, having tested to some extent the value of the proposed plan, we feel that we owe to the profession a full statement of what appears to us to be a most valuable contribution to the art of healing. It is still less our intention to mete out the degree of praise which is due to Dr. Reid as the originator of the idea upon which the practice is founded. It would seem, from the little historical sketch given above, that the idea had occurred to others before it occurred to him, and that, therefore, the barren honor of being the first suggester of the idea, that luxations of the hip might be reduced by manipulations alone, does not belong to him. All who read his paper, however, will acknowledge, that to him belongs the higher honor, of having caused the idea to assume the shape and value of a fact, and out of the bare suggestion to have, by patient, ingenious, and long-continued investigation and experiment, deduced an available, and, as we think, an exceedingly valuable addition to the resources of Practical Surgery.

CASE 1.—The first opportunity which presented itself for the trial of the new method, was in the case of an Irish laborer, who was brought into the New York Hospital, November 30th, 1852, with a luxation of the right thigh. He had been struck, a short time before admission, by the cow-catcher of a passing railway train, and thrown some distance, and in his fall, probably, the accident was produced. The symptoms were those of the dislocation on the dorsum ilii, the head lying rather lower down and nearer the ischiatic notch than usual. The thigh was shortened about two inches, tended across the other, with the ball of the great toe of the injured limb touching the instep of the other foot, fixed in its position, and the head of the femur was felt in the position above described when the thigh was rotated on its axis. In addition to this injury, he had received a compound fracture of the left leg, three inches above the ankle, together with a good deal of bruising of other parts of his body. The patient was etherized to the extent of complete relaxation, and Jarvis's Adjuster was applied. It broke on the first trial of extension, and was laid aside. This mischance suggested the trial of Dr. Reid's plan, which was accordingly adopted. The operator, Dr. Buck, after bending the leg upon the thigh, gradually adducted the thigh, while at the same time it was being flexed upon the trunk. Carrying the limb thus bent at the knee, and strongly adducted, over the sound thigh, by a gradual sweep over the abdomen, and then slowly and steadily abducting the limb so as to carry the knee outwards, making at the same time a rocking motion by moving the leg backward and forward, had the effect of dislodging the head of the femur from its new position, and making it approach the acetabulum; but it did not enter the socket. From the position above indicated, the limb was now brought down slowly towards a straight position, still kept in a state of forced adduction. This last manœuvre seemed to have a very powerful influence in forcing the head towards the acetabulum, but the whole proceeding was completed without success. It was observed, however, that the head had been moved a little higher on the dorsum than it was before. The same manipulation was now again practiced more deliberately and more carefully than before, and as the limb was being brought down abducted, we had the satisfaction of seeing and hearing the reduction effected, by the head of the bone slipping into its socket. All deformity had disappeared, and the motions were free in all directions. The other injuries were properly attended to, and the recovery from the effects of the luxation was rapid and satisfactory. He finally recovered from his compound fracture also, and left the hospital with a good leg and a perfect hip.

Case 2.—An Irish laborer, aged 25, received an injury of his right hip, and a fracture of one of his clavicles, by being thrown from a railroad car, while it was in motion. He was received into the New York Hospital, December 8th, 1852, under the care of Dr. Halsted. On examination, the injury to the hip proved to be a luxation of the femur upwards and backwards on to the dorsum ilii. The patient was placed immediately under the influence of ether, and the reduction was attempted by a procedure nearly the reverse of that above described, in Case 1. The leg being flexed upon the thigh, the limb was flexed upon the trunk and carried up in a state of abduction, then across the abdomen, and being fully adducted, was, in that state, brought down to the straight position. The effect of this mode of operating, which is almost precisely that said to have been employed by Prof. Nathan Smith, was to throw the head of the bone forwards, under the anterior superior spine of the ilium, and it was quite evident that a very little more force in the same direction would have brought it upon the pubes. This plan was therefore abandoned, and Reid's manipulation was tried carefully and without the employment of much force. On the first trial it was successful, the bone being reduced with an audible snap, as the limb was being brought down in a state of abduction. The recovery was rapid and perfect, and he was discharged, cured, January 15, 1853.

Case 3.—Charles O. Merritt, a sailor, thirty-seven years old, of a stout, vigorous frame, was admitted to the hospital with a luxation of the femur, of twelve weeks' standing. Attempts had been made, by an excellent surgeon of this city, to reduce the bone, but without a satisfactory result. A very careful examination was given to the limb by all the surgeons of the Hospital who were present, and all agreed that the head of the femur was thrown upon the dorsum of the ilium, in the usual situation; but some doubt existed whether there might not also be an injury of the acetabulum itself. The patient being fully etherized, Reid's manipulation was tried, and, on the first trial, failed, the head seeming to remain nearly in the position it occupied before the operation was commenced. Dr. Watson, under whose care the patient was, now made a second more careful effort, using more force in making all the movements, but being particularly careful to make forced abduction while bringing down the limb from extreme flexion to the straight position. As the limb was thus descending, slight rocking motions being at the same time employed, the reduction was suddenly accomplished, the head of the bone being felt, or heard by a great number of persons, to slip into its socket. The limbs being laid side by side, all deformity had ceased, and all present were satisfied that the reduction was complete and perfect. The patient's knees were bandaged together in the usual manner, and he was placed in bed with rather more care than usual, but in less than an hour it seemed as if the joint had lost its natural appearance again in a slight degree, and the apparatus was tightened. By next morning, however, it was too evident that the original displacement had again occurred, and to its fullest extent. This had taken place in spite of the greatest quietude on the part of the patient, who was a very intelligent, tractable person, and fully aware of the importance of keeping the joint unmoved. The manipulations were again tried several times, but without effect. The head of the bone seemed to move about freely in all directions, but could not be brought into the acetabulum. The limb was put up in the straight apparatus which we usually employ for fractures of the thigh, and extension, by the adhesive straps, was kept up so as to keep the parts, as nearly as possible, in proper position. A good deal of stiffness and swelling of the joint followed, which, however, subsided, and he was allowed to go about on the 30th January. He finally gained about as much use of the joint as if there had been a fracture of the cervix femoris. I am informed by Dr. Buck that he has since gained a very excellent use of the limb.

Case 4.—John Kelly, a laboring man, aged twenty-one years, was admitted May 22d, 1853, having been knocked down by a horse-car, by which a luxation of the left hip had occurred into the ischiatic foramen. The limb was shortened about one inch, toes turned inward, and the head of the bone felt in its new situation. The reduction was attempted by the mode described above, the man being fully relaxed by ether. The effect of the first attempt was to throw the head on to the obturator foramen, making the limb longer than the other, and producing the deformity characteristic of that dislocation. From this point, by a slight alteration of the movement, the head could be made to slip back to its original position. Between these two points it could be made to play backwards and forwards, but would not enter its socket. Dr. Post, in whose charge the patient was, then employed the usual mode of reduction, from the foramen ovale, viz., extension of the limb, combined with a lifting of the head of the bone over the edge of the acetabulum, by the help of a folded sheet passed round the upper part of the thigh. This proved successful, without resorting to the pullies. In this case the cure was very slow, and he left the

Hospital with some degree of pain and swelling about the joint. I learned that an abscess formed in or about the joint, which was opened, and when I saw him a year after, there was every appearance of seated morbus coxarius.

Case 5.—Michael Delany, a boy aged eight years, was admitted into the house June 29th, 1853, having received very severe injuries in falling from a ladder, at the height of the third story of a house, to the ground. There was found to be a bad compound fracture of the right thigh, and simple fracture of the left. When laid upon a bed, and his clothes removed, the right thigh, which was the seat of compound fracture, was found to be in an extraordinary position. It lay obliquely across the abdomen of the boy, with the leg and foot lying up by the axilla of the left side. On examination, it was discovered that this singular position was rendered possible by the fact that the head of the femur was dislocated backwards and upwards, on the dorsum ilii. The house surgeon, to whose care the case fell on admission, took the injured limb in his hands and very carefully carried it over the abdomen to the right side, and then abducted it and brought it down towards the straight position, thereby completing the steps of Reid's manipulation, which accident had already commenced. In doing this, the head of the bone slipped into its place, and the hip gave no further trouble. The fractures of both thighs went on favorably towards a cure, and he was discharged well, August 23, 1853.

Case 6.—John Gallagher, twenty-eight years old, a stout Irish laborer, was brought into the Hospital about half an hour after he had fallen from his cart while intoxicated. He was found to have a dislocation of the left femur upon the dorsum ilii, and was immediately sent to the operating theatre and placed fully under the influence of ether. I then proceeded to employ the manipulation above described, but as we were completing it by bringing down the limb strongly abducted, it became evident that the head of the femur was about to slip below the acetabulum into the foramen ovale, as had occurred in Dr. Post's case, No. 4. The movement was therefore reversed and again more carefully tried, with the same result. On the third trial, with the view of avoiding this tendency of the head to be forced below the acetabulum, I brought down the limb in a state of very slight instead of very strong abduction, making the movement very deliberately, and accompanying it with the usual rocking motions of the limb on its axis. This plan was perfectly successful, and the bone slipped easily into its place, and the cure was rapid and perfect. All the movements in this case were made with the greatest facility, and without the necessity of employing any more force than the weight of the limb required.

After the reduction in this case, I made a dissection of the hip-joint in a recent subject. I had previously made several dissections with reference to the action of the different muscles and their condition after luxation. In this instance, however, I removed all the muscles, leaving the capsular ligament only, and then endeavored to dislocate the head of the bone. I first tried adduction, and carried the limb so forcibly over the abdomen that the knee touched the anterior surface of the thorax, but without producing luxation. On making more violent efforts in the same direction, the cervix fractured or rather cracked across within the capsule, and soon after the ligament itself tore across at its superior and posterior part, just opposite the point of yielding of the cervix. The laceration was directly across the ligament, and occupied about one-half of its circumference. As soon as this took place, the dislocation was easily effected. The neck of the femur and the trochanteric portion of it were now seen to be kept in their place by the untorn portion of the capsular ligament, which acted as a sort of fulcrum, upon which, by using the limb as the long arm, we could make the head, as the short arm, move about in any direction upon the surface of the dorsum of the ilium. On making the manipulations for its reduction, the head was observed to pass behind the acetabulum until it reached its lower margin, and if the thigh was brought down slightly abducted, it slipped easily over this least elevated part of the margin into its socket. If, however, it was brought down very strongly abducted, the head, instead of passing into, went below the acetabulum, and passed on to the foramen ovale, as it was about to do in Gallagher's case, No. 6, and as it did repeatedly do in Kelly's case, No. 4. Still further, we observed that after we had reduced the bone it slipped very easily out of place again, and this was explained by finding that in the reduction, the head had not gone back through the rent in the capsular ligament, but, remaining outside, had pressed the capsule before it into the acetabulum. This, of course, prevented the complete reception of the head of the bone into the socket, and permitted it to slip out again with the greatest facility. This entanglement of the head in a button-hole opening of the capsular ligament is noticed by many surgeons as an obstacle to complete reduction by the old plan with the pullies, and I do not perceive that the new method offers any advantages in this particular. Might not this have been the condition of things in Merritt's hip, Case No. 3?

CASE 7.—Francis Cotbunger, an Irish turner, was admitted to the N. Y. Hospital, December 12th, 1853, with a dislocation of the right hip. The accident had occurred about four weeks previously, and had been treated in the country, as a sprain, by leeches, etc. The limb was lengthened, the toes everted, and the whole limb stood off from the body abducted, and slightly flexed, symptoms which clearly showed that the head of the bone was upon the foramen ovale. The patient being fully brought under the influence of ether, a manipulation the reverse of Reid's was employed by Dr. Halsted. The leg being bent upon the thigh, the thigh was gradually flexed upon the trunk until the knee touched the thorax. The limb was then brought down, forcibly adducted, into the straight position. By this the head of the femur was moved from the foramen ovale on to the dorsum ilii. Being in this situation, Reid's method was adopted, with the effect, however, of bringing back the head to its original position on the foramen ovale. By a repetition of the first manœuvre, it was again thrown on the dorsum, and from there, by Reid's plan, again thrown back upon the foramen. After repeated attempts, the bone was finally reduced by the pullies from the dorsum in the usual way, this being the only instance in which the pullies or Jarvis's Adjuster have been used, since our attention has been called to the new plan. It will be noticed, however, that the limb was every time brought down in a state of forced abduction; the moderate abduction found successful in Gallagher's case, No. 6, was not tried. A good deal of swelling and pain in the joint followed these various operations. He was up and and about, however, by the 5th January, and on the 13th he was discharged, cured.

Case 8.—Hugh Doyle, a sailor, 22 years old, was admitted to the Hospital, April 22d, 1854, with a dislocation of the left thigh upon the foramen ovale. The limb was in a position of abduction, rotated outwards, with the foot resting on its outer edge. The muscles arising from the pubes and ramus of the ischium were very tense, adduction was impossible, and the prominence of the trochanter was gone. From this deformity, the position of the head, with regard to the acetabulum, was clear. He was also suffering from other severe injuries, which had been produced by the fall, in which the hip was luxated. He was put fully under the influence of ether, and the reduction was first attempted in the usual way, by Dr. Buck, by direct extension of the limb in the direction of its axis, while at the same time the upper part of the thigh was lifted forcibly outwards by means of a sheet folded round it. This had not the desired effect, and would have required the pullies to make it effectual. Another manipulation was then tried: The leg was flexed upon the thigh, and the thigh upon the trunk. The foot was then pressed forcibly outwards, thus rotating the thigh inwards on its axis, and giving the head of the bone an inclination outwards towards the ischiatic notch. The pelvis at the same time was held firm by assistants. This was repeated twice, each time with the effect of causing the head to move considerably from its resting-place, but without entering the socket or going over to the notch. On the third time of making the manipulation, the thigh was brought down from entire flexion to a little below a right angle, and while in this position the foot was again forced outward as before. This plan proved successful, and the head of the bone slipped into its proper place in the acetabulum. This was accomplished without any considerable force or difficulty. The cure went on favorably, and without unusual symptoms.

Case 9.—Fritz Frieze, aged 38, a German sugar refiner, came into the Hospital, May 23, 1854, with a luxation of the left thigh, which had occurred fourteen days before from a fall. The surgeon who first saw him pronounced it a mere contusion, and had allowed him to walk about, which he was able to do without much pain, though, of course, with a very great halt in his gait, and with great labor in the movements of the injured hip. As he stood erect, the left thigh inclined outwards and forwards from its proper direction, the toe of the injured limb touching the floor about ten inches from the other foot. The limb was an inch longer than its fellow, and the adductor muscles were tense. Adduction was impossible. The trochanter was fallen in towards the pelvis and thrown backwards and downwards. On making rotation, the head of the bone could be indistinctly felt moving on the foramen ovale. After having the patient fully relaxed by ether, I made some free movements of the limb in all directions, with a view of breaking down any adhesions which might exist. I then took hold of the ankle of the injured limb with the right hand, while I supported the thigh with the left; I flexed the knee to a right angle, and moving the thigh a little forwards, to relax the tense adductor, I forced the foot inwards, making, at the same time, a rocking motion of the whole limb on the pelvis. My idea was, by rotating the thigh outwards, to throw up the head of the bone towards the acetabulum, from which it could not be distant more than an inch. This manœuvre was not successful, though carefully and repeatedly tried. We then tried the plan adopted by Dr. Buck, in Hugh Doyle's case, No. 8, with the effect of throwing the head upon the ischiatic notch. By reversing the movement, the head was easily thrown back to its previous position on the foramen, and the first manipulation was again tried, combined with a movement of strong adduction in a direction which carried the knee behind the other one. This, accompanied with the rocking motion, which we have found useful in all these replacements, accomplished the reduction on the first trial, and without the slightest violence or excess of force. The head slipped in with an audible snap, and the limb assumed its natural shape and position. The cure was rapid and perfect.

The two last cases were experimental, as we had no knowledge of any recorded precedent which gave us any assistance in their management. We were led to adopt the modes of manipulation, simply from reasoning on the effect which the movements of the thigh would produce on the position of the head of the femur. An attentive examination of the skeleton, with the head of the femur placed on the foramen ovale in the position it assumes when luxated, will show that, while the head lies upon the foramen, the neck lies along the side of the pelvis in such a manner as to bring the trochanter about opposite to, and a little below, the acetabulum. If, now, we hold the trochanter fixed with one hand, and make the two movements described in Cases 8 and 9, it will be observed that the head can be brought into place by both of them; but, at the same time, it will be observed that, when the trial is made by rotating the thigh inwards, thereby causing the head to move outwards, the head, in order to reach the socket, has to pass through a sweep of $\frac{3}{4}$ of a circle, and then crosses the lip of the acetabulum at a point where it is very prominent and very difficult to surmount. If, on the contrary, the rotation of the thigh is made outwards, so as to throw the head inwards, it has only a space of about an inch to pass through in order to slip into place, and the portion of the brim over which it passes is much less elevated and prominent. The movement of adduction in a direction a little backwards, as employed in Case 9, has evidently the effect to lift the head over the edge of the acetabulum when the rotation has brought it to that point. It will also be noticed that in the outward sweep of the head, it has, in order to get up to the acetabulum, to pass by the ischiatic notch, into which it is exceedingly prone to slip, as actually occurred in Case 9, and also in Case 4. For these reasons, I am disposed to consider the manipulation employed in Case 9 to be the correct and most effectual one in this form of luxation, and that though in a recent and favorable case the outward movement of the head might succeed, yet that in a difficult or long-standing case it would fail entirely, or be attended, if successful, with a great degree of violence and laceration. This is a point, however, which can only be settled by more ample experience and careful experiment. From the comparative rarity of this form of luxation, this experience can only be slowly obtained, and we should feel greatly indebted to any gentleman who may have an opportunity of managing such a case by manipulation, if he would transmit to us the results of his experience.

Case 10.—Dr. Dewitt C. Peters, late house-surgeon of the N. Y. Hospital, now of the U. S. Army, writes from Pawnee Fork River, Kansas Territory, under date of Sept. 24, 1854, "I have had one case of dislocation of the head of the femur into the ischiatic notch, which I reduced immediately after it occurred, by putting the man under the influence of ether and employing the method of Dr. Reid." The man had been thrown violently by an unruly mule he was attempting to harness.

The following letter, from Dr. W. Parker, Professor of Surgery in the University of the State of New York, adds two more valuable cases to our list.

New York, *Nov.* 10, 1854.

Dear Sir:—In compliance with your request, I send you an account of two cases of luxation at the hip, which I reduced after the plan proposed by Dr. Reid, of Rochester, N. Y.

Case 11.—July 11, 1853. I was called in the evening, to Mr. P—— C——, a contractor, hale, muscular, and forty years old. I found him lying on the carpet, complaining of pain. He was thrown from his carriage, by the running away of his horse. On examination, I found the left limb an inch and a half shorter than the other, and the foot turned inward. The head of the femur was in the sacro-ischiatic notch.

I put him *fully* under the influence of chloroform, and proceeded to reduce the thigh. In my first attempt, I carried the head of the bone into the foramen thyroideum. By a slight movement and without force, the head of the bone passed up to the notch. I at once made the second trial, and carried the bone into place with the utmost ease. The patient was soon at his business.

Case 12.—November 1, 1854. Mrs. K., aged forty-four, fell some eighteen feet, injured the brain and luxated the left thigh. I saw her at two P. M. Advised to dress the head, get up reaction, and I would be back in a few hours to reduce the limb. This was a luxation upon the dorsum. She was strong and muscular.

I found her in the evening warm and sensible. I applied choloroform and proceeded to reduce. I accomplished it after the plan of Dr. Reid, without any violent effort and in a most satisfactory manner. I am prepared to say, the profession are under great obligations to Dr. Reid for the plan of treatment which he has suggested and demonstrated in the reduction of luxations at the hip-joint. With the aid of *an* anæsthetic the plan is perfect. W. P.

Case 13.—Samuel Gordon, aged thirty-seven, Ireland, laborer, was brought to the N. Y. Hospital, November 22, 1854, with a luxation of the right hip, and a fracture of the right leg. The accident had occurred immediately before admission, from the falling of the wall of the Gas-house. The head of the bone was found on the dorsum ilii, rather low down towards the ischiatic notch.

Nov. 24. The leg having been dressed firmly with pasteboard splints, so that it might not receive injury during the reduction of the hip, the patient was fully etherized and Reid's plan of reduction was tried by Dr. Watson, twice or thrice without effect. This plan was abandoned, and the pullies were faithfully and for a long time employed. The head descended, but would not pass into its socket. Thinking that Jarvis's Adjuster would give more control over the movements necessary in replacing the bone, it was applied, and with it the head of the femur was brought down so that it seemed ready to slip in, but on cutting the cord it was found unreduced. It was thoroughly tried until the steel shaft bent, but without success. Under these discouraging circumstances, the pullies were again about to be applied, when it was thought best to give Reid's plan one more trial. The manipulation was performed twice, without success. The third time it was done more deliberately and more carefully, and when the head of the bone was brought to the lower edge of the acetabulum, it was retained there for a time and the rocking motion performed in all directions, and when all seemed loose and free, the abduction was increased, without any jerk or sudden motion, and the limb brought down thus strongly abducted towards the straight position; as this was done, the head of the bone slipped into place with an audible snap.

From the small number of cases here presented, even with the addition of those recorded in Dr. Reid's paper, I do not consider that we can obtain data sufficient for the final appreciation of the new plan of reducing luxations of the hip-joint. Still, they seem to be sufficient to show us that the plan may be safely, easily and successfully applied to a certain number, and probably to a very great proportion of all the cases which occur. The cases which are related embrace every instance of dislocation of the femur which has presented itself in the Hospital during the last two years, and a reduction was always effected without the aid of pullies, except in the one case of Dr. Halsted, No. 7, and here a modification of the manipulation, which had previously proved successful, was not tried. In Dr. Post's case, No. 4, the reduction was finally effected from the foramen ovale by the usual mode, though without the pullies, but it was brought, by the manipulation employed, to this point from the ischiatic notch, from which it would surely have required the pullies to displace it on the old plan. It is to be observed, too, that our experience has been progressive, and while, at the time Case No. 4 occurred, we did not know how to reduce the bone from the foramen ovale by manipulation alone, that we have since learned the true method of doing it, if our experience, in Cases 8 and 9, can be relied on. Though we have failed, then, in reducing, by the new plan, two cases out of the thirteen, yet I think that the record shows good reason for believing that all might have been so reduced, if we had known at the time as much as subsequent cases have taught us. The applicability of the plan to cases of long standing, is well shown in Merritt's case, No. 3, where twelve weeks had elapsed, from the time of the accident, and in which, though not permanent, the reduction was effected with comparative facility.

With regard to the rationale of the process, most of those who have written on this matter are in the main points agreed. The head of a dislocated femur is retained in its new position by a mechanism which does not exist in any other joint, and which is produced by the fact of the muscles not being inserted into the head, but into the trochanter, nearly three inches from the head, and that from this point of principal muscular insertion the neck goes off at a large angle from the axis of the shaft. From this, it happens that when the head of the femur is thrown out of its socket, the trochanter no longer stands out more prominent than before, but being held firmly by the muscles which are inserted into its base, it is prevented from rising any more than enough to let the head out of the acetabulum, while the head and neck, slipping to the one side or the other, are found lying in such a manner that the side of the head, neck and trochanter are in contact with some part of the outer surface of the pelvis, varying, of course, in the different forms of luxation. This being borne in mind, it will be clear that any attempt at reduction, which merely brings the head of the bone to the acetabulum, will not succeed in making it enter that cavity, because of the lying-down position of the neck and trochanter against the side of the pelvis. We need, therefore, not only to bring the head over the socket, but at the same time to raise up the trochanter, and neck so as to allow the head to enter. Now, in the ordinary methods of reduction, this raising up of the trochanter, so as to put the neck in the proper direction for the head to enter its socket, is done first, by the action of the pullies, and the approximation of the head to the socket is done second, by the continuation of the extension. This raising of the trochanter is, of course, opposed strongly by the muscles inserted into its base, causing the head to be pressed more and more firmly against the pelvis, and increasing the friction, and thereby causing, by far, the greater part of the difficulty in bringing down the head to the level of the acetabulum. It is in this, principally, and I am myself disposed to say only, that any active muscular contraction opposes the reduction of a dislocation of the hip-joint. True, the large muscles around the joint are thrown into action as soon as extension is made; but this is an action excited by the extension, and, that it is a very feeble opposing force, is evidenced by the facility with which these muscles give way to the force of a single unaided arm, when a fracture of the neck of the femur is concerned, in which, of course, none of the friction alluded to can occur. This comparative action of the muscles, in fracture and in dislocation, is very strongly and appropriately insisted upon by Dr. Reid.

The process by manipulation avoids this main difficulty, and, as it were, eludes the opposition of the muscles. The trochanter, being fixed by the insertion into its base of the pyriformis, the two obturators, the gemelli, and the upper part of the quadratus, acts as a fixed point or fulcrum, upon which, by moving the limb, the head of the bone can be made to describe a circle round the fulcrum. When we remember that this fulcrum is not, strictly speaking, a fixed point, but has a certain degree of motion of its own, we can easily see how, by means of this movable fulcrum, the head of the bone can be placed, by varying the motions of the limb, on almost any point within two inches around the acetabulum, and, of course, over the acetabulum itself. If this manipulation is made in such a way as not to raise the trochanter from lying against the pelvis, then, when the head comes over the acetabulum, a slight rotation, such as is given by the rocking motion employed, will sufficiently raise the trochanter to let the head slip in without provoking to opposition the trochanteric muscles, and if the movements be made in such a direction as to relax the stretched muscles, the whole may be accomplished without calling forth the slightest muscular opposition from the beginning to the end of the procedure. This principle, in its application to the different forms of dislocation, presents some variations. In the dislocations on the dorsum, and on the ischiatic notch, for their mechanism is for our purpose identical, the principle has its best illustration; and, if any one will take the skeleton or the dead subject, and go through the process, he will perceive that, by adduction, the tense rotators are relaxed, and that, by flexion of the thigh upon the trunk, the head is caused to pass down behind and below the acetabulum, and then, by carrying the knee out so as to abduct the limb, that the head comes toward the lower portion of the acetabulum where its margin is least prominent. At this point, I wish it to be observed, that our mode of procedure varies a little from Dr. Reid's. He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that, by the rocking movement already described, it be caused to slip in. This is well, and will probably answer in many cases, but it failed us so completely from the first, that we were led to add the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion, and it has been uniformly in the act of thus bringing down the limb, that the reduction has been accomplished. On looking at the parts in the dead subject, it will be seen that this movement of the limb, when the head has reached the lower margin of the acetabulum, tends directly to roll the head upwards over the edge and into the socket. The mechanism of the reduction from the foramen ovale has already been alluded to. I do not know of any case of reduction from the pubes.

If the proposed plan should prove, on further trial, to be as successful and as free from danger as it thus far has been, one most valuable feature of it, as a surgical resource, will be its availability. Wherever a surgeon, with his bottle of ether, can go, there the dislocated hip can be reduced, without instruments, without appliances, without assistants. I well remember finding myself, in the year 1848, in a country village in Vermont, in consultation on a case of dislocated hip of some weeks' standing, in which it was difficult for us to persuade the patient's friends that there was any thing more than a sprain of the joint. It was late on a cold autumn day, and we were about twenty miles from any place where pullies could be obtained ; but, nevertheless, we made such extempore arrangements as we best could, and by the help of an old tackle-block and some bed-cord, with counter-extending bands of hanks of homespun yarn, we proceeded to attempt the reduction. If we had been heartily seconded by the friends and family, we could, I have no doubt, finally have succeeded, even with our clumsy apparatus; but the doubts and hesitations on their minds, and their unwillingness to allow the patient, a stout, muscular young woman, to be so long and so repeatedly subjected to our unsatisfactory attempts, finally decided the case against us, and we were dismissed without thanks or fee, and the poor girl's hip has never been reduced to this day. I have often thought since, how different an aspect matters would have worn, if we could have brought the manipulation to bear upon the case, and how different a result might have been obtained for the unfortunate patient. No better illustration, however, could be given of the availability of this operation than that given in the letter of Dr. Peters, giving an account of Case 10, in which he says, that the accident occurred in the heart of Kansas Territory, five hundred miles from the nearest fort. If the poor man had depended upon pullies for the reduction of his dislocation, how much delay and suffering must he have undergone, from which he was saved by the simple fact that Doctor Peters was familiar, during his hospital course, with the management of these cases by manipulation, and was therefore able, on the spot, to effect with ease a reduction which every day's delay would have rendered more difficult.

Every thing in our experience thus far seems to indicate that this method of reducing luxations is as safe, if not safer, so far as the integrity of the joint and its after usefulness is concerned, than the reduction by forcible extension with the pullies. The method is not, however, without its dangers, and these mainly arise from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches. By the inconsiderate or misdirected action of this lever force, one of three accidents might be produced: either the muscles holding the trochanter, and thereby forming the fulcrum on which the power is applied, might be torn from their attachments; or, if they held fast, the tissues, round and among which the head passes in its movements, may be extensively lacerated or contused; or, lastly, it seems to me very possible that the neck of the bone might be broken by too violent abduction, forcing it against the side of the pelvis. Though happily these dangers are thus far only theoretical, yet the anatomy of the part shows that they are real, and each one of them might have most serious consequences. It would not be possible to lay down any specific rules whereby these dangers are to be avoided, except by insisting on that almost universal law of surgical manipulation, that every thing is to be done with gentle moderate force, and never with sudden violence. As far as my recollection serves me, and I myself assisted in almost every case reported, we never have accomplished any thing by proceeding in a direction where great force was required to continue the movement, but have always succeeded by finding a direction in which the mere continuance of the movement, without force, has brought the head into the proper position. It will be noticed, by looking over the cases, that in many of them, before the head went into its socket, it slipped about on the outer surface of the pelvis, taking sometimes one and sometimes another of the four positions usually spoken of as the four forms of luxation of the hip. This in some instances happened several times, and in the two instances of failure, this change of position was all that could be accomplished. Now, it cannot be doubted that this extensive movement of the head of the bone must be attended with a corresponding amount of laceration and displacement of the tissues among which it passes, and although the mischief thus done may be confined to the areolar tissue in the muscular interspaces, still it is an injury which may add to the dangers of after-inflammation, and is, if possible, to be avoided. I suppose this can only be done by defining more accurately the precise method of procedure to be adopted in each case, so that no experimental or ineffectual trials shall have to be made, but the operator shall be able at once to do exactly what is necessary to bring the head of the bone to the point desired.

The above account had been prepared for the press, with the exception of Case 13, which has since occurred, when a case presented itself which offers some points so important in their bearing upon what has already been said, that I add the history here by itself, rather than incorporate it with the other cases.

CASE 14.—Patrick Barry, aged 42, was admitted to the

New York Hospital, Oct. 23, 1854, with a dislocation of the left femur, which had occurred seven weeks previously, by a fall from a rail-car while it was in motion. The symptoms were unequivocal, the limb being shortened 1¾ inches, the ball of the great toe resting on the instep of the sound foot, and the head of the bone being distinctly felt upon the dorsum of the ilium. The patient was a man of good muscular development, but the injured limb was somewhat wasted and flabby from inaction. Two days after admission he was put under the influence of ether, and Reid's manipulation was tried. The head descended as usual, until it came opposite to the lower margin of the acetabulum, but from that point, as the limb was brought down, it slipped on to the foramen ovale. The manipulation was repeated several times, with all care, varying the degree of abduction on the various trials, but without success. It was impossible to make the head rise over the lower border of the acetabulum so as to slip into its place. After numerous thorough and careful trials, the manipulation was abandoned and the pullies ordered to be applied. Before this was done, it was thought best to place the head of the bone on the foramen ovale, and from that point to try and reduce it by the usual method recommended by Sir Astley Cooper. The head was accordingly placed on the foramen, and while the upper part of the thigh was grasped by an assistant and lifted strongly outwards, I took hold of the ankle and made extension and adduction. The head seemed not to move at all under this force, and while making strong adduction a crack was heard, every thing became loose about the joint, and on examination it was evident that a fracture of the cervix had taken place, leaving the head in the foramen ovale. There was nothing further to be done but to put the limb up in the straight apparatus, hoping that, if we could obtain union, he would have as useful a limb as those ordinarily left by fracture of the cervix, and certainly a better limb than if the dislocation had been untouched. Thus far, Nov. 25, every thing has gone well, and promises union, with a shortening of about an inch. I am sorry that we must accept this case as one of failure of the new plan after what we considered a fair trial; for myself, however, I do most profoundly believe that it failed simply because we have not yet learned enough about the manipulation to adapt it to the condition of parts concerned in this particular instance. That we shall yet acquire that knowledge, I see no reasonable ground to doubt. With regard to the fracture of the cervix, we were all surprised at the slight amount of the force which was competent to produce such a mortifying accident. It adds double force to the caution given above, when speaking of the possibility of that accident, and it is not a little remarkable that the paragraph containing that caution was written on the very morning of the day when the production of the fracture verified the necessity of the warning. Dr. Watson, in a note to me, speaks of a fact which he says, "I have on undoubted authority, viz.: from one of the professors in the School of Medicine in Toronto, Ca., that an accident, similar to that of Case 14, occurred in that city, while the surgeon was attempting to reduce a luxation of the hip by Reid's method." Finally, it must be observed that the new plan is entitled to none of the blame of the fractured cervix. The accident took place after Reid's manipulation was abandoned, and while we were attempting the reduction according to the old established and classical method.

New York, Nov. 30th, 1854.

Art. III.—*History and Observations on Asiatic Cholera in Brooklyn, N.Y., in* 1854. By Joseph C. Hutchison, M D., late Physician to the Brooklyn Cholera Hospital; Member of the New York Pathological Society, etc.

The history of every epidemic should be chronicled soon after its termination, whilst all the attendant circumstances are fresh and readily recalled. This is especially important of Cholera, which must still be regarded as a *terra incognita* in medicine, in order that it may be compared with like epidemics, which have existed or may exist at different periods and in different parts of the world, with the view of enabling us to comprehend the laws which control it, the circumstances which favor its development, and, consequently, the means of averting its ravages.

The epidemic Cholera, of 1854, took its rise at Basorah, a town situated on the Tigris, at the head of the Persian Gulf, in 1851.* From this point it pursued its march of desolation westward through Asia, Europe, and across the Atlantic, with astonishing fidelity, in the same tracks which had already marked its passage. It reached the principal seaports of this country, New York, New Orleans and Quebec, in emigrant vessels, in the latter months of 1853. With the opening of spring, it gradually spread from New Orleans, up the Mississippi and its tributaries, through the Southern and Western States. During the winter and early spring months of 1854, emigrant vessels in large numbers continued to arrive at the port of New York, many of which had suffered severely from Cholera; and from this focus the disease spread throughout the Northern and Middle States, with the same merciless ferocity which had already made it a much-dreaded pestilence.

The present epidemic dates its commencement in New York during the last week in May, and it appeared in this city about the same time, May 29th. It is worthy of note, that in 1832 the disease manifested itself in New York 19 days, and in 1849, 18 days before it appeared here, whilst the present year it began here about the same time that it did in 1849.

For the information of those who may be unacquainted with the topography, etc., of the city of Brooklyn, it may be well to remark, that it is situated upon the western end of Long Island, opposite the city of New York, and is separated from it by a strait called the East River, which is about one mile in width. Its length, from northeast to southwest, is six miles, its greatest breadth four. The general surface is elevated from seventy to eighty feet above the level of the sea, and its hilly and stony character is indicated by its ancient name, *Breuckland*, or *broken land.* It contains a population estimated at 150,000; but since the addition of Williamsburgh and Bushwick, which has taken place since the close of the epidemic of which we write, the population amounts to 200,000, and its area has been greatly increased.

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* Smith *On the Progress of Cholera, N. Y. Jour. of Med.*, Nov., 1854.

The subject of the first case, which occurred, as stated above, May 29th, was a respectable Irish female, aged 43 years, in comfortable circumstances, and of prudent habits, but residing in a filthy neighborhood, at 255 John street (5th ward). She had not been absent from home, nor had she been exposed, by direct contact, to the disease. The second case was reported June 3d, at 340 Atlantic street, (10th ward,) a comfortable and airy part of the city, and distant from the first about one and a half miles. The victim was a respectable gentleman, an agent for the Long Island Railroad Company, who was subject to disorders of the bowels, but had not, in any way, been exposed to Cholera. The third and fourth cases occurred on the 9th; one at 26 Water street (2d ward), and the other in Columbia street, near Kelsey's alley (6th ward). On the 11th four cases were reported; one in Willow street, near the 3d, and the others in the neighborhood of the corner of Water and Jay streets (5th ward). A number of other cases soon after occurred in this part of the city. The above cases all terminated fatally; they had no connection with each other, and, with the exception of the second, they occurred amongst the lower classes of foreign population inhabiting filthy localities along the borders of the East River.

As the history of the former epidemics of Cholera in Brooklyn has never been written, it has been thought that the following tables, exhibiting the weekly mortality, the number from each ward, with the ages and nativity, during the epidemics of 1832 and 1849, as well as of the present year, might prove interesting for the purposes of reference and comparison. The statistics have been obtained through the courtesy of Dr. Wendell, Health Physician, who has kindly allowed me access to the archives of the Health Office. In 1832 there were no deaths reported except those from cholera:

1832.				1849.						1854.					
Week ending.	Cholera.	Week ending.	Cholera.	Week ending.	Total Mortality.	Cholera	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality	Cholera.
July 14	4	Sep. 1	24	June 2	42	5	Aug. 4	181	100	June 3	79	1	Sep. 2	162	35
" 21	12	" 7	17	" 9	38	4	" 11	188	98	" 10	50	3	" 9	140	31
" 28	50	" 15	14	" 16	41	8	" 18	175	90	" 17	57	15	" 16	128	14
Aug. 4	34	" 22	9	" 23	52	10	" 25	128	46	" 24	66	14	" 23	106	10
" 11	35	" 29	6	" 30	78	19	Sep. 1	84	26	July 1	79	24	" 30	102	11
" 18	38	Oct. 6	5	July 7	70	30	" 8	67	18	" 8	110	54	Oct. 7	85	4
" 25	25	" 13	1	" 14	88	47	" 15	66	7	" 15	220	80	" 14	80	---
				" 21	169	76	" 22	41	4	" 22	233	73	" 21	63	4
				" 28	116	62				" 29	260	94	" 28	87	2
										Aug. 5	263	73	Nov. 4	74	3
										" 12	192	55			
										" 19	206	50			
										" 26	185	28			
Total			274	Total				1624	650	Total				3037	678

It is seen, in the above table, that the disease rushed more rapidly to its climax in 1832 than in the succeeding epidemics. In 1849 it reached its height during the tenth week from its commencement. This was also true in New York, Boston, and Philadelphia.* The recent epidemic here arrived at its acme during the ninth week of its prevalence, whilst in New York its period of greatest intensity was during the tenth week, as in 1849.

Meteorological Phenomena.—The following meteorological observations, made during the recent "Cholera season," are derived from the *New York Medical Times*, and from the very complete records of Dr. James M. Minor, of this city:

Mean Temp. for the 4 weeks ending June 24,	70°;	average for same time last 8 years, ...	69½°
Inches of rain " " "	2·4;	" " " "	3 5
Mean Dew point below air Temp. "	14°.		
Mean Temp for the 4 weeks ending July 22d,	76°;	average for same time last 8 years, ...	74½°
Dew point below air Temp " "	14°.		
Inches of rain in July, ...	1 71.		
Mean Temp for 5 weeks ending August 26, ..	76°;	average for same time last 8 years, ...	73·8°
Dew point below air Temp. " "	17°.		
Inches of Rain, " "	1·25;	average for same time last 8 years, ...	4 1
Mean Temp. for 4 weeks ending September 23,	71°;	" " " "	67½°
Mean Dew point below air Temp. "	11 3-5°.		
Inches of Rain " " "	2⅝;	same time last year, ...	5½
Mean Temp. for 4 weeks ending October 21, .	61°;	average for same time last 8 years, ...	59°
Dew point below air Temp. " "	13°;	same time last year, ...	13½°
Inches of Rain " " "	1 1-20;	mean for last 8 years, ...	2 1-10
Mean Temp. for the 4 weeks ending Nov. 18th	49½°;	" " "	49°
Dew point below air Temp. " "	9°;		8½°
Inches of Rain " " "	4½;	" " "	3½

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* See *New York Jour. of Med.*, Nov., 1849.

It is thus seen that the atmospheric temperature, during the recent epidemic, was above the average for the last eight years. The excessive dryness of the season is also worthy of note. The spring months were very wet, 11·12 inches of rain having fallen in April, and 5·43 in May, according to Dr. Minor.

In the records of the Health Office, for 1849, the only fact which can be obtained, in relation to the ages of persons who died of Cholera, is, that 150 were children and 500 adults. From this we may infer that the chief mortality occurred, as usual, in the meridian of life.

1832.						1854.					
Ages of persons who died of Cholera.	Males and Females	Per cent.	Ages of persons who died of Cholera.	Males and Females.	Per cent.	Ages of persons who died of Cholera.	Males and Females	Per cent.	Ages of persons who died of Cholera.	Males and Females	Per cent.
Under 10 yrs	44	16·06	From 50 to 60	21	7·66	Under 5 yrs	40	5·90	From 40 to 50	108	15·91
From 10 to 20	18	6·57	" 60 to 70	16	5·84	From 5 to 10	26	3·83	" 50 to 60	70	10·32
" 20 to 30	40	14· 6	Over 70	11	4·01	" 10 to 20	55	8·11	" 60 to 70	33	4·86
" 30 to 40	78	28·46	Unknown	6	2·19	" 20 to 30	144	21·38	Over 70	12	1·77
" 40 to 50	40	14· 6				" 30 to 40	172	25·37	Unknown	18	2·65
Total				274		Total				678	

The above tables coincide with what is usually observed of Cholera—that it selects for its victims more especially those who have attained to vigorous manhood.

The 11 wards in the following table represent the city of Brooklyn as it was before the consolidation of Williamsburgh and Bushwick with it, since which time the 6th ward has been divided and others added. It should also be remarked, that the table exhibiting the mortality in the different wards, in 1849, is not compiled from returns actually made to the Health Office, but is based on the number of cases furnished by the different wards to the Cholera Hospital, which, judging from the relation which exists between the number of cases sent from each ward to the hospital, and the total number of deaths in each ward for the present year, may be regarded as very nearly correct.

1832.	1849.						1854.					
No. of deaths in each Ward.	No. of deaths in each Ward.		Per cent.	No. of deaths in each Ward.		Per cent.	No. of deaths in each Ward.		Per cent.	No. of deaths in each Ward.		Per cent.
The village was not at this time divided into Wards. Most of the population resided in what is now known as the 1st, 2d, and 5th Wards, and the disease chiefly prevailed there.	1st W'd	140	21·53	8th W'd	12	1·84	1st W'd	11	1·62	8th W'd	36	5·30
	2d "	70	10·76	9th "	10	1·53	2d "	59	8 74	9th "	27	3·98
	3d "	10	1·53	10th "	90	13 77	3d "	8	1 17	10th "	42	6·19
	4th "	10	1·53	11th "	96	14·76	4th "	20	2·94	11th "	57	8·55
	5th "	30	4·59				5th "	103	15 19	Vessels in Port ..	2	0 29
	6th "	175	26 92				6th "	234	34·49	Unkno'n	32	4·71
	7th "	7	1 07				7th "	47	6·93			
Total 274	Total				650		Total				678	

The value of the above table would have been very much increased, if we could have given, in addition, the area and the population of each ward, but this could not be obtained in time for the present purpose. It is well known, however, that the disease chiefly prevailed in the unhealthy localities along the water-front of the city, amongst a degraded class of population, who are closely packed in the ill-ventilated apartments of tenant-houses, or in shanties in the suburbs, with goats and pigs, inhaling noisome miasms instead of the pure air of heaven, and subsisting on food insufficient in quantity and of inferior quality.

The mortality in the 1st ward, in 1849, occurred principally in Furman street, which runs along the water-edge, at the base of the "Heights," and is inhabited by the lower classes.

1832.			1849.			1854.					
Nativity.		Per cent.	Nativity (of persons admitt. into the hospital).		Per cent.	Nativity.		Per cent.	Nativity.		Per cent.
Unit. States	166	60·69	Unit. States .	15	11·54	United States	135	20 00	Wales	2	0·3
Ireland	63	23·00	Ireland	100	76·92	Ireland	408	60·18	Portugal.	1	0·15
England	26	9·49	England	3	2· 3	England	38	5·60	Saxony	1	0 15
Scotland	4	1·46	France	1	0·77	Germany	31	4·57	France	1	0 15
France	2	0·72	Germany	10	7·69	Scotland	14	2·06	Italy	1	0·15
Germany	2	0·72	Unknown ...	1	0·77	Holland	4	0·59	Switzerland ..	1	0·15
West Indies.	1	0·36				Prussia	4	0·59	Unknown	31	4·57
Brit. Possess.	1	0 36				Sweden	3	0·44			
Unknown	9	3·25				Brit. Possess.	3	0·44			
Total	274		Total	130		Total				678	

Notwithstanding the Board of Health adopted stringent measures to compel the prompt report of all cases of Cholera that occured in the city, it is very well known that many physicians, as during the former epidemics, reported only those cases that died or that they supposed would die. It is impossible, therefore, to ascertain accurately the whole number of cases that occured.

The comparative extent of the disease, in '32, '49, and '54, is shown in the following table.

1832.			1849.			1854.		
Population.	Deaths	Ratio of deaths to population.	Population.	Deaths.	Ratio of deaths to population.	Population.	Deaths.	Ratio of deaths to population.
17,000	274	1 in 62	90,000	650	1 in 138½	150,000	678	1 in 221¼

After the above preliminary statistical details of interest in the general history of Cholera, I will recur to the particular facts relating to the recent epidemic.

The approach of Cholera this year was not heralded by the general appearance of mild affections of the bowels, which preceded for a short time the appearance of the former epidemics. Indeed, this fact was so obvious as to induce the impression generally amongst physicians, in the early part of the season, that the disease would not assume an epidemic character, and the necessity of opening a Cholera hospital was questioned by some. The allied diseases of the bowels increased nearly *pari passu* with Cholera, until it reached its climax, and gradually declined with it. In the latter respect it differed widely from the last epidemic. It was observed here, in 1849, as well as in New York, Boston, and Philadelphia, that the cognate diseases did not decline (as they had increased) in the same ratio with Cholera, and dysentery followed it in an epidemic form. *(See N. Y. Jour. of Med., Vol. III., p.* 414, *New Series.)*

It is often asserted that, when Cholera prevails as an epidemic, all kindred diseases are swallowed up by it; but this was not true in Brooklyn, as above stated; nor was it true in the other principal cities of this country, as will be seen by examining the valuable tables contained in the Journal just referred to. On the contrary, the other diseases of the bowels were positively increased, under the influence, perhaps, of the same specific cause which produces Cholera. This is further shown by the following table, compiled from the valuable "Semi-Centennial Table of Mortality in New York," which has been lately issued from the Office of the City Inspector:

Disease.	First Period. 1831.	1832.	1833.	Second Period. 1848.	1849.	1850.	Third Period. 1853.	1854. First 11 months.
Cholera	----	3513	----	2	5071	57	21	
Diarrhœa	142	104	55	432	783	437	652	
Dysentery	156	136	87	739	1256	792	742	
Cholera Morbus	----	93	10	43	241	44	71	
Cholera Infantum	1.2	334	129	505	926	713	916	

CHOLERA IN THE HOSPITAL IN 1854.

On the 26th of June a Cholera hospital was opened in Lafayette avenue, and its medical department placed under the supervision of the writer. It was closed September 30th. During this period 170 persons were admitted: in June, 7; in July, 83; in August, 56; in September, 24.

The following table exhibits the condition of the patients on admission, the number died and discharged, and the per centage:

Condition when admitted.	Admitted. Male.	Admitted. Female.	Died. Male.	Died. Female.	Discharged. Males.	Discharged. Female.	Total. Admit.	Total. Died.	Total. Disch.	Per centage. Died.	Per centage. Disch.
First Stage	8	10	--	--	8	10	18	--	18	-----	100·
Partial Collapse	10	7	1	--	9	7	17	1	16	5·88	94·12
Complete Collapse	45	55	37	45	8	10	100	82	18	82·00	18·00
Consecutive Stage	6	3	2	3	4	--	9	5	4	55·55	44·44
Other diseases	16	10	5	4	11	6	26	9	17	34·61	65·39
	85	85	45	52	40	33	170	97	73	57·06	42·94

Of the 82 deaths occurring amongst those admitted in complete collapse, 23, or 28 per cent. reacted and died of consecutive diseases, which are analyzed in the following table:

Persons admitted in complete collapse.	Per cent.	Persons admitted in complete collapse.	Per cent.
Died in collapse 59	71·95	Died with dysentery 5	6·1
" with congestion of brain 10	12 2	" " other diseases 4	4 9
" " consecutive fever 4	4·9		
		Total 82	

A majority of the cases put down as having died from congestion of the brain, also had prolonged suppression of urine, and it is not improbable that the affection of the brain was owing, to some extent at least, to the poisonous influence of urea. The dysenteric affection was of a peculiar character. The evacuations consisted, in many cases, of almost pure blood, which had a bright, fresh appearance, and was discharged without the tormina and tenesmus which usually attend the disease. This affection was most prevalent toward the close, whilst consecutive congestion of the brain was chiefly confined to the early part of the epidemic.

It is proper to remark that cases admitted with diarrhœa, which might have terminated in Cholera if they had not been treated, are included under the head of other diseases; and those admitted in *articulo mortis*, amounting to a considerable number, are put under the head of complete collapse. The small per centage of deaths amongst those admitted before extreme collapse was reached, amounting to 1 in 35 cases of well-marked Cholera, or 5·88 per cent., strikingly illustrates the importance of early treatment.

The great number admitted in complete collapse is owing, in some degree, to the distance that many were brought; a large proportion coming from a remote section of the 6th ward, having left home, perhaps, in a condition that was curable, if they could have had suitable medical attention and proper hygienic influences surrounding them. The jolting over rough pavements whilst laboring under a formidable disease, in which the utmost quietude should be observed, contributed materially to increase its intensity. Most of those admitted with consecutive and other diseases were in a condition by no means favorable for their recovery.

SYMPTOMS AND PHENOMENA.

Without entering into a detail of the symptoms presented by the Cholera of 1854, in this city, which, in its general character, coincides with the usual descriptions of the disease, it may be well to call attention to such observations as are deemed of particular interest.

Evacuations.—In about one-fourth of the cases in which vomiting was noted, there was discharged a greenish fluid, resembling a solution of sulphate of iron. It was sometimes acid, and at other times neutral, and in no case examined was the presence of bile indicated by the usual tests. It was observed in 21 cases, of which 15 were females, and 3 died, 6 were males, of which 2 died. In all cases that vomited the character of fluid in question, the emesis was obstinate and prolonged, continuing in some cases almost incessantly for two or three days. The discharges from the bowels were usually of the rice-water character; but in 36 cases out of 93, in which it was particularly noted, the dejections were of a thin yellow or mahogany color, and such cases were much the most likely to terminate fatally. Not the slightest trace of albumen was indicated, by heat, nitric acid, or ferrocyanide of potassium, in any discharge examined; fibrine was also absent, and instead of being invariably alkaline, as is often asserted, they gave, in many instances, a decidedly acid reaction. An abundant precipitate of chloride of sodium was thrown down by nitrate of silver, which was redissolved by the addition of ammonia.

Contraction of the Pupils was observed in a large number of cases, and was regarded as a sufficient reason for an unfavorable prognosis, although the other symptoms may not have been very alarming. It was observed often, independently of any other evidence of cerebro-spinal disorder.

Cramps were present, more or less, in a great majority of cases, but they were less violent and persistent than in 1849. Indeed, in no instance were they so excruciating and prolonged, as was frequently seen from the very commencement of the evacuations, in an epidemic at that time witnessed by the writer in the Mississippi valley—an epidemic, I may remark *en passant*, which has been rarely equaled and never exceeded in malignity by any that has prevailed on this Continent; 9·2 per cent. of the population within its range having fallen victims to its ravages.*

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* See Report on Cholera by the writer—*St. Louis Med. and Surg. Journal*, Nov., 1853.

The Mammary Secretion formed an exception to the general suppression of the secretions; this was also observed by Dr. Buel, in the epidemic of 1849. Two females with nursing infants were brought to the Hospital, one of which supplied her child with nourishment, until she was so prostrated with the disease that she could no longer attend to it; in the other case, the infant was removed from the mother soon after admission, and particular attention was necessary in order to prevent the development of a mammary abscess.

Copious Diaphoresis occurred in only 8 cases. Singultus was noted in 4 cases, all of which recovered; and the catamenia appeared in 3 cases as soon as convalescence began—in one for the first time.

Hour of Attack and Death.—The hour of attack was ascertained in 79 cases, and the exact hour of death noted in 73 cases, as seen in the following table. The hour of attack given is the period assigned by each individual at the commencement of his illness, and may not, therefore, be strictly correct; for certain individuals, unwilling to believe they were suffering from Cholera, might date the period of attack some time subsequent to the actual invasion. And for the same reason, the duration of the disease may not have been accurately ascertained.

	A. M.													P. M.												
Hour of attack...	1	2	3	4	5	6	7	8	9	10	11	12	Total.	1	2	3	4	5	6	7	8	9	10	11	12	Total.
No of pers's.	2	4	2	2	9	5	1	7	5	4	3	11	55	0	1	5	3	2	2	1	0	3	4	2	1	24
Hour of death	1	2	3	4	5	6	7	8	9	10	11	12	Total.	1	2	3	4	5	6	7	8	9	10	11	12	Total.
No of pers's.	1	2	4	2	2	1	0	3	2	3	3	4	27	2	2	8	2	5	5	5	5	3	5	2	2	46

The duration of the disease was ascertained in 94 cases. In 41 cases, not fatal, the average duration was 54·83 hours; the shortest 16 hours and the longest 14 days. In 53 fatal cases, the average duration was 48 hours; the shortest 4 hours, the longest 17 days. The duration of the disease was influenced by the peculiar nature of the secondary affections, as well as the age and constitutional peculiarities of individuals.

Is Cholera contagious?

It does not comport with the purpose of this article to enter into a discussion of the question of contagion; in the present state of science it must remain undecided. It is sufficient to state here, that no striking evidence of personal communicability was observed in the recent epidemic. That Cholera cannot be communicated by *inoculation* would seem to be very well settled by the courageous experiments of certain French and Polish physicians, which consisted in tasting the effused liquids, and inoculating themselves with the blood of patients who subsequently died with the disease. Schmidt states that, within his own knowledge, a drunken man by mistake swallowed half a beer glass of the vomited matters, slept away his drunken fit, and remained well.* It is also well known that ineffectual attempts have been made to communicate the disease to the inferior animals, by injecting fresh Cholera blood and the rice-water fluid into their veins. The *portability* of Cholera is also very well established, by a large amount of evidence already familiar to the profession.

Is Cholera invariably preceded by Premonitory Diarrhœa?

In a pamphlet on this subject, recently issued from the London press by David Macloughlin, M. D., it is stated, as the result of an investigation into the previous state of health of 3,902 cases of Cholera in 1849, also a number of cases in 1848 and 1832, as well as in the epidemic of 1853–4, in London, "that in every case of Cholera, a diarrhœa for a *few hours*, or for a *few days*, or for a *few weeks* precedes and gives the patient warning that an attack of spasms, vomiting, etc. —that an attack of Cholera, in fact—is coming on." A similar opinion had been long entertained by many persons, and it is now becoming more general. Its correctness, however, with proper deference to the opinions of others, I must call in question. In the hospital the inquiry was always made, and in the case book it is recorded, in a number of instances, that premonitory diarrhœa had not existed. This record was made on the statements of the patients or their friends, without having my attention very specially directed to the question; but after having seen the unconditional and unequivocal opinion expressed by Dr. Macloughlin, it occurred to me, that a more searching inquiry into those cases might have resulted in the confirmation of his views, and it was determined whenever, in any subsequent case, it was stated that there had been no premonitory diarrhœa, that every available source of information would be used to ascertain the facts. The result of the investigation shows that, in six unequivocal cases, premonitory diarrhœa did not exist. These cases are given below, with a synopsis of the leading symptoms, indicating that they all had Cholera.

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* *Report on Cholera to the Royal College of Physicians*, p. 122. London: 1854.

CASE 1.—*Admitted September 1st*, 1854. Sarah Y., aged 33, attacked with vomiting and purging a "thin, watery fluid," at 7 o'clock this morning, and cramps half an hour subsequently. She states that she felt perfectly well up to this time, and had no premonitory diarrhœa, which was further confirmed by the testimony of her husband. *Symptoms*—Vomiting and purging, excessive thirst, livid appearance of the face, thready pulse, skin cool and covered with a clammy perspiration, suppression of urine. Death in 27 hours.

CASE 2.—*Admitted September 2d*, 1854. Sarah J. Y., daughter of preceding patient, aged 8 years, attacked at 1 o'clock this morning, with severe vomiting and purging. By careful inquiry of herself and father, it cannot be ascertained that premonitory diarrhœa had existed. *Symptoms*—Vomiting and purging, intense thirst, cold and cyanic state of the skin, feeble circulation, husky voice, and suppression of urine—no cramps. Death in 66 hours, from congestion of the brain.

CASE 3.—*Admitted September 2d*, 1854. Julia R., aged 22, went to bed perfectly well last night, slept soundly, and was attacked with vomiting and purging a watery fluid, and cramps in the stomach at 6 o'clock this morning. *Symptoms*—Vomiting, purging, feeble voice and circulation, lower extremities cold, blueness of the surface, and suppression of urine. When admitted, and after her recovery, she stated positively that she had had no liquid discharges before the hour above mentioned.

CASE 4.—*Admitted September 3d*, 1854. Thomas O., aged 44, went to bed last night, slept as well as usual, and was awakened at 5 this morning with an inclination to vomit and purge, which soon after commenced. Cramps were developed at 6. *Symptoms*—Vomiting and purging, intense thirst, voice whispering, skin cold, clammy, and corrugated on the fingers, cramps, partial suppression of urine. Death in 35 hours.

CASE 5.—*Admitted September 16th*, 1854. Ellen M., aged 29, went to bed well last night, slept soundly, and arose, feeling as well as usual this morning. At 8 o'clock, violent vomiting and purging came on, and cramps at 9. On careful and minute inquiry, no evidence could be elicited that previous diarrhœa had existed. *Symptoms*—Vomiting, purging, thirst, skin cold and blue, suppression of urine. Death in 25 hours.

CASE 6.—*Admitted September 22d*, 1854. Margarette M., aged 36, having felt and slept well the preceding night, was attacked with vomiting and purging at 5 yesterday morning, and cramps at 6. She was carefully interrogated when admitted, and again after her recovery, but no evidence that she had liquid discharges prior to the onset of Cholera could be elicited. *Symptoms*—Vomiting and purging of rice-water fluid, thirst, feeble voice, skin cool, suppression of urine, cramps.

The sudden development in the above cases of severe vomiting and purging, and in one case (No. 3) cramps in the stomach also, followed by the more characteristic algide symptoms, afford unmistakable evidence that they were struck down, from perfect health, at once, by Cholera. The patients not only felt well, slept well, and ate as usual, but, on the most careful inquiry, it was ascertained that nothing like a diarrhœa—no liquid discharges had preceded the severe attack. In two instances (Nos. 1 and 2), we have the additional evidence of the husband and father, and in Cases 3 and 6 of the patients again after recovery; and surely they could have had no motive for deceiving.

The writer has examined the pamphlet of Dr. Macloughlin, repeatedly, and with much care, in order that his views might be fairly presented, and the impression has been left, that he regards no case as Cholera until spasms commence, and certainly not until vomiting is developed. If this be his interpretation of Cholera, premonitory symptoms are certainly rarely absent; and even admitting his definition to be correct, we have an exception to this *invariable rule*, in Case 3, in which vomiting, purging, and *cramps* were developed simultaneously without any warning diarrhœa. But I imagine there are few physicians, who have seen much of Cholera, that have not occasionally met with cases in which spasms and even vomiting were absent during the whole course of the disease. Abundant evidence from generally recognised authorities might be adduced, in proof of this statement, if it was deemed necessary.

POST-MORTEM APPEARANCES.

One of the most astonishing phenomena presented by Cholera, which has been strongly attested by various writers, is the rise of animal heat that takes place soon after death. It is, however, not peculiar to Cholera. Cruveilhier observed a rise of temperature after death from asphyxia; *Anatomie Pathologique, livre* 16*me*, *p.* 35: similar observations were made by Dr. Dowler, in Yellow Fever; *Experimental Researches, &c.*, New York, 1846: and Briquet and Mignot observed the same in peritonitis, pneumonia, &c.*

The following table contains a record of observations made by the writer, of the rise of temperature after death from Cholera, as indicated by the thermometer.

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* *Report on the Morbid Anatomy of Cholera, to the Royal College of Physicians,* p. 7. London: 1854.

Case.	Age.	Sex.	Time of observation before death.	Temperature.		Time of death.	Time of observation after death.	Temperature.		Remarks.
				Body.	Atmosphere.			Body.	Atmosphere.	
1	33	Male	9 h. A. M.	Very decided coldness of surface.	79°	2 h. 30 m. P. M.	8 h. P. M.	Axilla, 90° Perineum, 93° Over the heart, 90° Toes, 83° Fingers, 85°	74°	*Rigor mortis* well marked.
2	18	Female	July 6th, 10 h. 30 m. P. M.	Axilla, 92° Calf of leg, 87° Side of abdomen, 49° Vulva, 49° Mouth, 78°	80°	July 7th, 1 h. P. M.	5 h. 30 m. P. M.	Side of chest 94°	85°	
3	34	Female	July 9th, 11 h. P. M.	Coldness very marked	73°	July 10th, 8 h. P. M.	8 h. 30 m. P. M.	Mouth, 81° Axilla, 81° Vagina, 91° Lower extremities 72°	75°	
4	45	Female	July 27th, 4 h. P. M.	Hand, 80° Foot, 83° Side of chest 100°	84°	July 28th, 6 h. 30 m. A. M.	8 h. 30 m. P. M.	Hand, 83° Foot, $78\frac{1}{2}$° Side of abdomen, 88°	74°	*Rigor mortis* well marked.
5	36	Female	10 h. A. M.	Surface quite cold.	80°	7 h. P. M.	10 h. P. M.	Pelvic Cavity, 104°	74°	
6	30	Female	11 h. 30 m. A. M.	Coldness very decided	86°	3 h. P. M.	4 h. P. M. 9 h. P. M.	Axilla, 104° Pelvic Cavity, 107°	87° 80°	

It is usually stated that the warmth vanishes when cadaveric rigidity commences, but this was not true in all cases, as is seen in the above table; the rigidity lasts also for a long time. The cause of this remarkable phenomenon has not been satisfactorily explained.

Muscular contractions.—The well known automatic movements of the body which take place after death, were noted in four cases; in one of which it is known that there had been no spasms during the six hours he was in the hospital, and probably for a much longer time. The movements of the hands and feet continued, in one case, for an hour after life was, to all appearance, extinct, and greatly alarmed the friends of the patient, who were unwilling to believe that he was yet dead.

The whole number of autopsies amounted to about twenty, but only five, that were complete, were recorded, two of which died in collapse, and three from consecutive diseases. There were three males and two females, the youngest 22 and the oldest 45. I am indebted to Dr. Louis Bauer, of this city, for valuable assistance in conducting some of the autopsies.

External appearances.—The skin, in all cases, was more or less livid, but this was more marked in those that died in collapse. *Rigor mortis* well marked—when death occurred in the algide stage, excessive.

Head.—*Sinuses* and *membranes* of the brain preternaturally loaded with fluid blood, and there was more or less subarachnoid effusion of clear or reddish fluid; in one case—death from consecutive gastro-enterite—after four days' duration of severe symptoms, the arachnoid, where it passes over the sulci, was raised by air, which escaped when the membrane was punctured. The ventricles contained an unusual quantity of fluid, less in those that died in collapse, sometimes clear, and at other times bloody. The *substance of the brain*, both medullary and cortical, was softened in one case, in which the duration of severe symptoms was twenty-five hours, and death occurred, with symptoms of cerebral congestion, after partial reaction. In the remaining cases, it was normal in vascularity and consistency.

The *lungs* were engorged with dark fluid blood, in a majority of cases, especially at their lower and posterior part. In one case, the congestion, although considerable, did not exist in a corresponding degree in the other organs. In two cases the lungs were collapsed, and in some cases the surface presented spots of ecchymosis.

The *pericardium*, in three cases, contained a drachm or two of serous fluid, which was, in one case, tinged with blood; its surface was covered with a sticky fluid, in another. The *substance of the heart* was flaccid in two, and firm in three cases, and it was engorged, in common with other organs. In one case—death in collapse—the right cavities and the left ventricle were excessively distended with fluid blood, as black as ink. This was the case in which the congestion of the lungs was not so marked as in other cases. In three cases, one of which died in collapse, fibrinous clots were found in the right cavities, with a few fragments of fibrine in the left ventricle of one subject, and a large quantity of dark fluid blood in all the cavities. In one case, the ventricles contained a small quantity of dark fluid blood, with some soft coagula.

The *liver*, in two cases, was greatly enlarged, its left lobe extending into the left hypochondrium. It was normal in two cases, and in one case its surface and substance was unusually pale.

The *gall bladder* was distended, in three cases, with dark green bile, in one case, with a pale green fluid, and in the subject which had so pale a liver, it was distended with two gall-stones, composed of cholesterine, with a nucleus of inspissated bile.

The *stomach*, in one case fatal in the algide stage, was perfectly healthy. In three cases, the mucous membrane was ecchymosed in large spots, thickened, and, in one case, softened, near the pylorus. In one case, death from consecutive gastro-enterite, the capillaries were highly injected, especially towards the pylorus, giving the whole surface a bright red appearance.

Small intestines.—In one case fatal in the cold stage, the mucous membrane of the jejunum and ileum was highly injected, and of a bright red color throughout its whole extent. It was normal in two cases, one of which died in the cold stage, and marked with spots of ecchymosis in another. In a case of consecutive gastro-enteritis, the whole mucous membrane was highly injected of a bright red color.

The mucous membrane of the *large intestines* was healthy in one case, marked by ecchymosed spots in three cases, and in one case in which death occurred in collapse, it was thickened and ecchymosed in the sigmoid flexure and descending colon.

Peyer's glands were enlarged in two cases, in one of which death had occurred in the cold stage. *Mesenteric glands* enlarged and hyperæmic in one case.

The *spleen* and *pancreas* were usually not altered.

The *kidneys*, with the exception of the engorgement common to other organs, were healthy in four cases. In one case, a fluid resembling pus, was observed to issue from the calices when exposed.

The *bladder* was filled with urine in one case that died of consecutive fever, empty and contracted in four cases; and in all the examinations that were made, it is distinctly remembered that the bladder was contracted and empty when death occurred in the cold stage.

The *peritoneum* was usually drier than natural, and covered, in some cases, with an adhesive fluid. In one case it is recorded, and in several others it is distinctly remembered, that the peritoneal surface of the alimentary canal presented a very pale, almost blanched appearance—a condition which has been faithfully represented by Pirogoff, in his *Anatomie Pathologique du Cholera Morbus, Tab.* 1. *Atlas. St. Petersburg*, 1849.

The condition of the *female sexual organs* was recorded in twelve cases. In five cases there was ulceration surrounding the os, with a bright red or dark and roughened appearance of the mucous membrane lining the cervix, body, and fundus uteri. Sometimes the lining membrane presented the appearance of having been macerated in water. In three cases, a tenacious, bloody mucus issued from the os, and also covered the internal surface of the uterus, from which it was with difficulty removed. In three cases, the canal of the cervix was marked by longitudinal fibres, the *arbor vitæ* being entirely obliterated. The *ovula Nabothi* were frequently found distended with a pearly fluid. The ovaries often contained watery cysts, and the Graafian vesicles were sometimes filled with blood. The vagina presented an ecchymosed appearance, and, in two cases, it was extensively ulcerated.

Physical condition of the blood.—In all cases the blood was tenacious, of a dark color, with little disposition to coagulate in the arteries as well as veins. In one case, death in cold stage, the blood was as black as ink, and no coagula were found in the body; in three cases, one of which died in collapse, fibrinous coagula were observed in the heart. On exposure to the oxygen of the air, the blood gradually assumed a brighter hue, but more slowly and less deeply than normal blood: it did not coagulate spontaneously out of the body.

Such is a rapid survey of the leading facts connected with the *post mortem* examinations of Cholera; few of them can be regarded as characteristic, or as necessary consequences of the disease. All observers admit that the most constant pathological condition is the lesion of the blood, which, as we have seen, is dark and fluid and less coagulable than in other diseases.

In a recent discussion at the N. Y. Pathological Society, a distinguished professor expressed the opinion, that the characteristic lesion in Cholera was inflammation of the alimentary mucous membrane. In many cases it is true that the gastro-enteric mucous membrane is highly injected and presents an inflammatory appearance, but it is not marked by the sequellæ of inflammation. Moreover, the well known experiments of Magendie, instituted in 1832, which were repeated by M. Contour, in connection with Professor Siewruck of Moscow, have satisfactorily shown that the redness is not inflammatory, but is owing merely to a venous *stasis* of the blood. These experimenters found, by injecting water into the intestinal arteries, that the blood gave place to the injected fluid, and the intestine became as clear and white as if it had never been discolored. This would not have been the case if the organic changes, which occur in inflammation, had been present. Another and fatal objection to the foregoing opinion is, that the alimentary mucous membrane is often found perfectly healthy when death occurs in the cold stage. This, it will be remembered, was the case in one of the subjects examined by the writer. The intestinal glands also in some cases are perfectly healthy, and in others preternaturally developed. Did the limits of this article permit, it might be shown, that the phenomena of the disease during life do not point to inflammation as the pathological lesion, except as an accidental complication.

TREATMENT.—The most valuable experience derived from the observation of the recent epidemic is, that Cholera patients should be disturbed by remedies as little as possible. And whenever, in any case, we are at a loss to know what treatment to adopt, or if we find the patient growing worse under the influence of remedies that we think best adapted to the case, the better plan is to rely on the *vis medicatrix naturæ.* This I have repeatedly done with much satisfaction; patients in the deepest collapse having reacted without any treatment—in one case without even ice, beef-tea, or external applications.

Whenever, in any stage of the disease, nausea or vomiting was present, an emetic dose of common salt was first administered, and repeated, if necessary, until vigorous emesis was produced, differing from the vomiting of Cholera, which resembles more a simple regurgitation, attended with little or no effort. Undigested food was frequently discharged, which had remained in the stomach sometimes for 24 hours, notwithstanding the Cholera vomiting had persisted during the whole time. The operation of the emetic usually relieved the vomiting, and when it failed, all other remedies commonly used for the purpose, including large doses of calomel, creosote, aromatics, effervescing draught, narcotics and external applications, were equally inefficient.

When the vomiting proved obstinate, nothing but lumps of ice and teaspoonful doses of beef-tea were allowed, and frequently even these were withdrawn, and the patient permitted to remain unmolested by any kind of treatment, for 12, 15, or 20 hours, with the most satisfactory results, even when there was great depression of the circulation, the skin cold and cyanosed, and the rice-water purging continuing. Indeed, whenever vomiting was a marked symptom, a favorable termination was anticipated. After the operation of the emetic, one grain doses of calomel were given every hour, sprinkled on the back of the tongue and washed down with water; the discharges, especially when of the rice-water character, would gradually become less frequent, and bilious matter usually appear in them in 12 or 15 hours. Small doses of calomel were used, because they answered the purpose without the disturbing effects which might arise from inordinate doses. Even the small doses of calomel were often followed by bilious diarrhœa, sometimes of a troublesome character, after the subsidence of the Cholera discharges; and it undoubtedly would have been a much more frequent and obstinate symptom, if larger doses had been used.

Ice and iced barley-water were sufficiently indicated by the intense thirst, and the obvious requirements of the system. The quantity was regulated by the condition of the stomach and the effects following their use. If vomiting was present, or if it seemed to be provoked by them, the quantity was diminished or entirely prohibited, as already stated.

Beef-tea was often used for keeping up the failing powers of the system, and supplying nourishment in a concentrated form. The quantity required will not disturb the stomach by its bulk.

An epispastic was usually applied over the abdomen, and rest in the horizontal position was always enjoined. Cramps, when mild, could be relieved by forcibly extending the contracted muscle, and when severe, which rarely occured, they were promptly relieved by inhalations of chloric ether. The hot-air bath was regarded as a valuable adjuvant.

In the treatment of the consecutive diseases which so often followed recoveries from collapse, we were guided by the pathological indications as under other circumstances, bearing in mind the depressed condition of the vital powers.

Such is a summary of the treatment found most beneficial in the Brooklyn Cholera Hospital. It was varied, of course, according to the stage of the disease, constitutional peculiarities, etc. During the course of the epidemic, a great variety of remedies were prescribed. At first stimulants were freely given in collapsed cases, because they *seemed* to be indicated; but I soon became convinced that they were of no use, if not positively detrimental.

Saline injections into the veins was practiced in five cases, but with only transitory benefit. It should be remarked, however, that all the cases in which it was tried had been for some time in extreme collapse, so that the value of the treatment cannot be regarded as having been fairly tested. And I cannot resist the conviction, that a treatment which produces such decided temporary benefit, such as arousing the patient from a profound lethargy, so that he looks and speaks intelligibly, restoring the activity of the circulation, improving the color and warmth of the skin, and, indeed, his whole appearance, may yet prove of immense value. The operation is a delicate one, and there are many nice points connected with it to be considered; such as the best method of introducing the liquid, the proper composition, temperature, specific gravity, quantity, and rapidity with which it should be introduced. When all these points are settled by experiment, which it is hoped the want of success hitherto will not discourage, we may, peradventure, be enabled to save the lives of many patients who would otherwise die.

The injected fluid consisted of three drachms of chloride of sodium and one drachm of alcohol in a pint of water, of which two pints were introduced into the median basilic vein, at a temperature varying from 100° to 115° Fahrenheit, and repeated when the algide symptoms reappeared. In some cases the solution of salt alone was injected, but its beneficial effects were less obvious.

The following composition, given in Dr. Gull's valuable report,* was also used in some cases:

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* *Reports on Epidemic Cholera to the Royal College of Physicians*, London, p. 214.

Chloride of Sodium, . . .	60	parts by weight.
" Potassium, . . .	6	" "
Phosphate of Soda, . . .	3	" "
Carbonate of Soda, ...	20	" "

" By dissolving 140 grains of this salt," remarks the Doctor, " in 40 fluid ounces of distilled water, and filtering, we obtain a fluid having a decidedly saline taste, a faintly alkaline reaction, and nearly approximative in its composition to the fluid effused, minus the organic substances. These are small in amount, and their loss has apparently no important influence on the constitution of the blood."

Sulphuric acid, so highly recommended by Dr. Fuller, was prescribed, but without any benefit. Opiates and astringents were not used, because they had been fairly tested in the epidemic of 1849 with very unsatisfactory results, and were then abandoned with obvious benefit; and the results of the simple treatment given above sufficiently attest, that they cannot be considered as necessary in the treatment of Cholera. In no hospital in this country or elsewhere, so far as I am aware, where these remedies have been relied on, or any other, indeed, has there been so large a proportion of recoveries, considering the stage of the disease when treatment was commenced, as has been shown to have occurred here. They are used for the purpose of arresting the alimentary discharges, which are considered as the cause of the sudden prostration of vital power which occurs in Cholera. The observations of the writer have induced him to adopt different pathological views. Every practitioner of much experience must have observed, in severe cases of diarrhœa and cholera morbus which recover, much more copious discharges than occur in many fatal cases of Cholera; and he must have been struck with the rapid development of the algide and cyanic symptoms, after so small an amount of the discharges, which, in other diseases, would not excite a feeling of uneasiness for the safety of his patient. Whenever a patient was admitted into the Brooklyn Cholera Hospital with copious and frequent vomiting and purging, especially of the rice-water fluid, if the discharges were not involuntary, a favorable termination usually occurred, and, *vice vèrsa;* and instead of death being the consequence of such symptoms, the conclusion seems more rational, that they are a curative means adopted by Nature to eliminate the poison from the system. Instead, therefore, of arresting the discharges, it was deemed best to *let them stop.*

From the materials presented in the preceding pages, the following conclusions, with others, may be legitimately deduced:

1st. If we may draw a general inference from the observations made in the Hospital in this city, Cholera should be regarded as a much less fatal disease than it is usually conceded to be.

2d. That premonitory diarrhœa, though usually, *does not invariably* precede the development of Cholera.

3d. The copious vomiting and purging of a fluid resembling rice-water, instead of constituting the essence of the disease, should, if not involuntary, be regarded as an indication of its favorable termination.

4th. In the treatment of Cholera, we should exhibit the highest respect for the *vis medicatrix naturæ.* I would rather be deprived of all other remedies, for this disease, than ice and beef-tea.

GREENE AVE., BROOKLYN, N. Y.

ART. IV.—*Exsection of the Head of the Femur and Removal of the Upper Rim of the Acetabulum, for Morbus Coxarius, with perfect recovery.* By LEWIS A. SAYRE, M.D., Surgeon to Bellevue Hospital, etc.

ON the 20th of March, 1854, I was called, in consultation with Dr. Throckmorton, to see Ellen G., 297 5th street, aged 9 years, who had been suffering for 18 months with morbus coxarius of the left hip, which was supposed to have resulted from a fall. She had been treated with issues, blisters, etc., together with the general tonic and anti-scorbutic remedies adapted to such cases; but the disease continued to progress, until an abscess was discovered, involving the whole upper front and inner portion of the thigh, accompanied with repeated chills, profuse sweats, and great prostration.

When I first saw her, this abscess had pointed in two places, and was apparently just ready to open; the point nearest the surface and most fluctuating was just by the anterior superior spinous process of the ileum, immediately in contact with the attachment of the tensor vaginæ femoris muscle, and Poupart's ligament. The other place of pointing was about five inches below the ligament, just over the femoral artery; pressure on any part of the upper portion of the limb distended both of these pointing abscesses, showing communication between them.

The leg was shortened 2¼ inches, and turned inward, *but not permanently fixed in its position*, (as is usual,) but allowing of considerable motion, which gave a distinct *bony crepitus* between the femur and ileum. The pelvis was twisted and drawn upwards. Her general health had become much affected, having lost her appetite, and she was suffering from hectic, with constant chills and profuse sweats, and was only rendered comfortable by the constant use of anodynes.

I advised a free opening of the abscess, and, if necessary, to remove the head of the femur. At first this was objected to; but, as the child's health rapidly failed and death seemed inevitable, the father, in a few days, consented to the operation. Accordingly, on the 29th of March, 1854, assisted by Drs. Throckmorton, Drake, Thebaud, Bauer, and Bertholf, I proceeded to perform it.

I first laid open the abscess by a free incision of about six inches, over the trochanter major, on the outer aspect of the thigh, and in a line with the femur, and then cut into the floor of the abscess (which principally occupied the inner and front portion of the thigh), and discharged about a pint of thin serous and flaky pus. The finger was then readily passed around the neck of the femur, and detected an opening in the capsular ligament on the inner surface of the neck. The upper border of the acetabulum had been absorbed, and the head of the femur was upon the dorsum of the ileum, near the anterior superior spinous process, *surrounded by its capsule*, (which seemed to have been slipped up), and a large deposit of bone, apparently being an attempt of Nature to make a new acetabulum. But this cavity thus formed had no lining membrane, as the femur grated roughly upon it. I then opened the capsular ligament on a line with the external incision, and disarticulated by bringing the leg strongly across the opposite thigh, and then, with a large pair of Luer's forceps, readily cut off the head of the femur at the lower extremity of the neck. The bone at this point appeared pefectly healthy. I was very cautious not to injure the insertion of the psoas-magnus, or iliacus-internus, or any of the rotator muscles, which are inserted just behind the trochanter major.

The upper rim of the acetabulum had been absorbed, (according to the theory of Dr. March, of Albany,) and the new deposit of bone, which was intended to supply its place, was denuded and carious. I gouged it off with a sharp, firm chisel, made for that purpose, and, in this way, took off a number of flakes of bone, until I came to a healthy, bleeding surface.

The anterior superior spinous process on its outer surface, and the external lip of the crest of the ileum, was black and carious for some distance, and with the forceps I easily clipped it off until I came to healthy bone. Very little blood was lost in the operation, and after cleaning away all the debris, I brought the leg in the straight position, filled the wound with lint, and dressed with a roller and cold water compress. She was then put to bed, and a cup of strong coffee administered, after which she soon fell asleep.

The child was under the influence of chloroform during the operation, which occupied nearly 20 minutes, and was perfectly insensible the whole time.

The following extracts from my note book, taken at each daily visit, exhibit the progress of the case:

11 P. M.—Has slept occasionally and is quite comfortable; pulse 128; skin good; vomited freely about 4 P. M.

March 30, 10 A. M.—Passed a good night, without any narcotic, and slept about four hours; has had no chill; taken breakfast with a relish, and is surprisingly comfortable, considering the magnitude of the operation; pulse 120; no hemorrhage; passed urine twice.

March 31.—Took half a grain of opium last night; slept well; pulse 120; skin good; removed external layer of lint; found small amount of pus.

April 1.—Slight fever; heat of skin and thirst; pulse 130. Administered 5 gr. Dover's powder, with addition of half a grain ipecac., every four hours.

April 2.—Has passed a good night, slept six hours, ate a good breakfast, and feels every way better, but is much more feeble; dressed the wound; on removing the lint, found healthy pus in abundance.

The abscess, which pointed at the anterior superior spinous process, being again full and fluctuating, I opened it, and gave exit to about a tablespoonful of tolerably healthy pus; pulse 140, and more feeble; directed to administer brandy and beef-tea more liberally; I do not think the family give sufficient stimulant or nourishment, as they are very strongly opposed to brandy, and are afraid of meat on account of fever.

April 3.—Slept well all night without opiate; pulse 120; bowels moved twice naturally; appetite good; finding great improvement, follow a more nutritious diet; I advised its continuance.

April 4.—Same as yesterday; healthy suppuration, rather abundant.

April 5.—Child very comfortable, amusing herself by cutting paper dolls; applied the straight splint for counter extension to the well side, and made extension by means of the foot-board, bringing the limb down to the same length of the opposite one.

April 6.—Slept well; bowels moved naturally; but pulse more quick and feeble, 160; has not eaten so well; ordered brandy and soup to be given more liberally.

April 7.—Slept well, but much weaker, having had three loose discharges in the night, and some hemorrhage from the nose, which was arrested by astringents and compress. Ordered brandy and laudanum, with more liberal use of iron.

April 8.—Diarrhœa not yet checked; the brandy and opium was not given, and yet the child is somewhat stronger than yesterday; pus more consistent.

April 9.—Diarrhœa checked; slept well; eats freely; discharge less copious and more consistent; pulse 120.

April 10.—Very comfortable; looks as if it will require a counter-opening on the front of the thigh, at the old place of pointing.

April 13.—Doing well, and the wound filling with healthy granulations.

April 14.—I applied a compress and adhesive straps on the inside of the thigh.

July 1.—Dr. Throckmorton has seen the child daily since my last visit, and reapplied the bandage and compress, which has had a most salutary effect, and the abscess has the appearance of healing rapidly.

July 10.—I was again called to meet Dr. T. to-day, and found the child much prostrated from a severe attack of dysentery, which had lasted four or five days; she is very much reduced, and, I fear, will not rally. The granulations are flabby, and pus thin and copious.

August 1.—The dysentery has been checked for some days; but the wound, which was nearly closed, has opened, and a small piece of ragged bone came away, which was probably some portion of the shavings or chips removed from the ileum, at the time of the operation, and which I had not been sufficiently careful to remove.*

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* Since making this note, my impressions have been more confirmed, as two similar pieces of bone have been removed from different parts of the cicatrix, and have thus materially retarded the progress of the case; I should therefore

August 20.—The child very much improved, but the fistulous opening, from which the piece of bone had escaped, remaining, and having rather a white and flabby appearance, I injected it with tinct. iodine.

August 24.—The injection has been followed by a smart attack of erysipelas, which has extended down some distance below the knee, and there is considerable constitutional disturbance.

Sept. 1*st.*—The erysipelas gradually subsided, but seems to have been of great service, as it has caused union of the walls of the abscess all around the thigh, and the small opening in the cicatrix is nearly closed, discharging a very few drops of healthy pus. The limb is still in the extending splint; but on removing it there seemed no tendency to retraction of the limb. The splint was reapplied; but the body was left free from the bandage, so as to allow of flexion in order to prevent anchylosis.

I might here mention, that for some weeks past, since about the 1st of August, at each dressing her body has been brought at a right angle with the thighs, having this object in view; and I have now permitted her to do it as often as she likes.

Nov. 1*st.*—I had not seen the case for two months, until to-day, when, to my astonishment, I found her walking on her crutches, which she has been able to do for some two weeks. Her limb appears the same length as the other, and she can flex and rotate it freely. I directed her to bear no weight upon it yet.

20*th.*—To-day I placed her in the horizontal position, and measured her carefully, and find there is about $\frac{1}{8}$ or nearly $\frac{1}{4}$ of an inch shortening. By taking hold of the foot, the whole body can be drawn down in bed without pain in the joint, and a pressure may be made sufficiently strong to move

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advise great care, after the performance of this operation, that all debris and foreign bodies be carefully washed from the wound; and in so large and ragged an abscess as this one was, it will require more care than any one would imagine, unless they had seen it.

the pelvis and body upward without producing any shortening of the limb. When she lies upon the back, with the leg extended upon the thigh, she can elevate the heel sixteen inches from the bed, and flex the knee so as to bring the thigh at a right angle with the pelvis; she can rotate it internally so as to touch the other foot, and externally so as to touch the bed. Her general health is perfect, and the case has terminated perfectly successfully. I feel in duty bound to express, in this place, my warmest thanks to Dr. Throckmorton, for his constant care and attention of this interesting case, and to which I am confident I am greatly indebted for so successful a result, as the distance from my house rendered it impossible for me to give it the care required.

The bone was carefully examined, microscopically, but no trace of tubercle was found.

REMARKS.—The history of exsection of the head of the femur in hip-joint disease lies within the present century. The first surgeon who suggested the possibility of exsection of this bone, was Mr. Charles White, in 1769; but the first to attempt its performance, in morbus coxarius, seems to have been Schmalz, in 1816. In this case the head of the bone was found loose, and simply required removal; but it was, on this account, no less a case of exsection in this disease, and its successful results add much interest to the early history of the operation. In 1818, Anthony White performed his celebrated operation, which has generally been referred to as the first successful attempt to exsect the head of the femur in morbus coxarius. It seems to have been repeated in Great Britain but once, and then by Hewson, of Dublin, until 1845, when Mr. Fergusson operated successfully. Since this date it has been very frequently performed in England; and within the last year we find notices of three operations in the London Hospital. Mr. Fergusson has operated five times, and, as far as we can learn, with uniform success; one patient died two years after the operation of "of enlargement of the liver, after having experienced great relief from the proceeding."

Mr. Fergusson states (*Med. Chir. Trans.*, vol. 28), that he has learned that Mr. Brodie performed this operation, and "the patient died within a few days after, the direct effect of that proceeding;" but Mr. Henry Smith, writing in 1848 (*London Lancet*), remarks that he has not been able to "obtain any accurate information respecting the correctness of this assertion." There is no doubt that this surgeon did exsect the femur at St. George's Hospital, about the year 1836, but under what circumstances it does not appear.

In this country this operation seems to have attracted little attention. A case is reported in the *N. Y. Med. Surg. Reporter*, Jan. 10, 1846, in which Dr. J. P. Batchelder, of this city, removed the head of the femur in 1845, under the following circumstances: A young man was kicked by a horse upon his hip, four or five years before, which gave rise to severe symptoms: fistulous openings formed and discharged pus freely; the probe finally detected dead bone; the fistula was dilated with sponge tents, and the dead bone removed with forceps, which proved to be the head of the femur; the patient now rapidly improved and eventually recovered.

I have learned that Dr. Parkman, of Boston, exsected this bone in 1853, but the particulars and results of the case I have no knowledge of. Dr. Bigelow, of the same city, operated soon after, but the case terminated fatally. From a somewhat extended examination of our medical periodicals, I have been unable to find records of any other case.

By a careful examination of the accompanying table, I think the propriety of the operation will be admitted. We might maintain its importance, also, from the fact that it is but following the indications of Nature. The cases of Schmalz and Kluge, in which the head of the femur was found separated from the shaft, are examples of natural efforts to remove the foreign body. Two striking instances of this kind were reported to the *Dublin Pathological Society*, in 1839, by Dr. Carlile, who exhibited two specimens of the epiphyses of the femur, which had been spontaneously discharged in two cases of hip-disease. One patient was 20 years of age, the other 5; both rapidly and completely recovered.

In preparing the following table, regard was had to exsection only in morbus coxarius, as it is in reference to this particular class of cases that we wished to estimate the value of the operation. To arrive at the most satisfactory conclusion in regard to the propriety of the operation, each case ought to be carefully examined, and the complications duly considered. It will be sufficient, however, for our purpose, to notice briefly the fatal cases, and, as far as given, the causes of death; by these means we can estimate the part which the operative proceeding bore in the fatal issue of the several cases.

Hewson's Case.—Profuse suppuration; died three months after the operation; extensive disease of the cotyloid cavity found, with perforation of the acetabulum and formation of abscesses in the pelvic cavity.

Textor's first Case.—Sloughs formed on the sacrum; died on the 53d day after the operation; on examination, the wound was found nearly cicatrized; there was the commencement of a false joint, consisting in bony deposits on the femur, and a depression on the ileum.

Textor's second Case.—Gangrene of the wound took place, and the patient died on the 4th day.

Fergusson's Case.—Died two years after, of enlargement of the liver; wound never entirely healed, owing to a piece of necrosed bone from the edge of the acetabulum, which the trochanter major prevented from escaping. The operator remarks: "I left the trochanters, being under the impression that by taking away the diseased head of the femur only, I lessened the danger, but it was found in the after treatment, that the trochanter major so projected outward in the line of incision as greatly to retard the closing of the wound, and I had no doubt, on inspection after death, that it had acted as a kind of cap to the acetabulum, and prevented the necrosed portion of bone, above referred to, from getting out." *

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* We do not learn that he used any extension—if so, this ought not tc have happened.

Roux's Case.—Secondary hemorrhage; died on 7th day; post-mortem examination revealed a large collection of pus between the glutei muscles; extensive disease of the cotyloid cavity; extensive disease of femur below its section; pus in the medullary cavity, disease of pubic bones.

Simon's Case.—Particulars of this case not given.

Smith's Case.—Progressed favorably for a time; symptoms of Bright's disease made their appearance, and he died four and a half months after the operation. Kidneys found in an advanced stage of Bright's disease; sinuses were found extending upwards along the psoas muscles and originating in caries of the upper lumbar vertebræ.

Hawkins' Case.—Patient very much exhausted; suffered little by the operation; died on 3d day. On examination the acetabulum was found perforated so as readily to admit the passage of the finger.

Bigelow's Case.—Particulars not given.

Erichsen's Case.—Particulars not given.

It will be seen that, as far as the particulars of these fatal cases are given, death was attributable in most instances to some grave complication. The operation has almost invariably produced the most favorable change in the general symptoms of the patient, and, in several fatal cases, the parts involved in the operation have healed in the most satisfactory manner, when at length the patient has succumbed to some new and acute disease.

By a careful examination of the tabulated cases, the propriety of the operation must be admitted, and also the great importance of not neglecting it too long, lest the constitution become so exhausted as not to rally from the shock, or sink from excessive suppuration. By too long delay, also, the acetabulum may become so much involved as to render the operation useless.

So soon as *suppuration* is formed *in the joint*, and the *synovial membrane* has been *destroyed*, which can be ascertained by *fluctuation* and *crepitus*, I should advise a *free incision* to be made *into* the joint, just posterior to the trochanter major, to give free exit to the pus. Extension should then be made, after the plan proposed by Prof. March, of Albany—otherwise the bones of the pelvis may become seriously involved. From personal experience in opening suppurative joints, I am satisfied that there need be no fear from the admission of air, which has always been so much dreaded. This fear has, doubtless, arisen from the great constitutional disturbance which follows its introduction into *healthy* joints, but we must recollect that after suppuration and destruction of the synovial membrane, that it has in fact no longer the *characteristics* of a *joint*, but is the same as any other abscess connected with bone, and should be treated upon the same general principles. By this prompt treatment in the *earlier* stages of the *suppuration*, we will avoid the necessity of *exsection*, and in the majority of cases have a speedy recovery with tolerable motion, and in many instances perfect and complete. Two such cases have occurred in my own practice, and I have seen a number in the practice of my friends. But as I did not intend to speak of suppuration of the joints in this paper, but simply of exsection for caries or necrosis, I will postpone the further consideration of this subject, merely remarking, that if we will carefully study the fatal cases which I have reported, I think we cannot help but infer that, had the plan proposed been earlier pursued in those cases, we might have anticipated a more favorable result, at least, in some of them.

SUMMARY.—*Whole number*, inclusive of above case, 30.

Recovered, 20.—Of these, 13 were completely successful; 3 died of an intercurrent disease, at periods varying from three months to two years after the operation; 1 is reported as not having progressed favorably; the remainder were too meagrely reported, or too recently performed to decide correctly of results.

Died, 10.—Of these, 4 died within one week after operation; 1 on the 12th day; 2 in two months; 1 in four and a half months; 1 some months after; 1 unsuccessful.

Table of Twenty-nine Cases in which the operation of Excision of the Head of the Femur has been performed in Morbus Coxarius.

No. & SEX.	AGE.	CAUSE AND DURATION.	CONDITION.	OPERATION.	PROGRESS OF CASE.	OPERATOR.
1	--------	------------------------	Caries; head separated from shaft.	1816.	Recovered.	SCHMALZ.
2, M.	14	Fall three years before.	Head dislocated on dorsum; great exhaustion; several fistulæ.	1818; straight incision; straight saw; four inches removed.	Bandages and splints used as in compound fracture; fever slight; discharge soon ceased; health rapidly improved; well in a year; perfect use of limb, except in rotating knee in.	WHITE.
3	--------	------------------------	Caries.	1823; removed above lesser trochanter.	Perforation of acetabulum and formation of abscesses in the pelvis; died in three months.	HEWSON.
4	-------	------------------------	Caries with abscesses.	1829.	Cured in 6 weeks; patient able to walk.	SCHLITCHING.
5	--------	------------------------	Caries; head loose; fistulæ.	------------------------------	Died two months after operation.	KLUGE.
6	Child.	------------------------	Caries.	------------------------------	Recovered.	VOGEL.
7	--------	------------------------	Disease of neck of bone and trochanter; head healthy.	------------------------------	Sloughs formed on the sacrum; death on 53d day; wound nearly healed.	TEXTOR.
8	--------	------------------------	Caries; head dislocated.	------------------------------	Gangrene of wound took place and death followed on the 4th day.	TEXTOR.
9	--------	------------------------	------------------------------	1845; removed all above lesser trochanter.	Complete recovery,	TEXTOR.
10, M.	14	Some months.	Head dislocated on dorsum; large sinus extending to it.	1845; straight incision; chain saw broke; used the straight; four inches removed.	Dressed as in compound fracture; shock slight; wound healed well; health rapidly improved; limb very useful, 2½ inches shorter than the other.	FERGUSSON.
11, M.	8	Some time.	Head dislocated; abscess over the ileum; sinuses; hectic and emaciation.	1847; crucial incision; edges of acetabulum removed; left the trochanters.	Treated as in former case; health improved; wound never entirely healed; died two years after of disease of the liver.	FERGUSSON.
12, M.	15	Long standing.	Dislocation; emaciation; cough; hectic; no abscess or fistulæ.	1847; straight incision; removed head and part of neck.	Secondary hemorrhage; collection of pus between glutei muscles; death on 7th day; extensive disease of cotyloid cavity.	ROUX.
13	Child.	Two years.	Head dislocated on acetabulum; sinuses and abscesses.	1848; removed head and portions of acetabulum.	Died four days after the operation.	SIMON.
14, F.	10	Some time.	Head carious and dislocated on dorsum.	1848; head and trochanter removed; acetabulum healthy.	Recovered.	FRENCH.
15	------	------------------------	------------------------------	------------------------------	Recovered perfectly.	FERGUSSON.

NO. & SEX.	AGE.	CAUSE AND DURATION.	CONDITION.	OPERATION.	PROGRESS OF CASE.	OPERATOR.
16, M.	16	Two years.	Caries; severe pain; sinuses with discharge.	1848: straight incision; removed four inches and the carious part of cavity.	Dressed as in fracture; pain ceased; health rapidly improved; wound closed well.	Walton.
17	--------	--------	--------	--------	Unsucessful.	Walton.
18, M.	33	Year and a half.	Hip swollen; sinus discharging; caries.	1848; straight incision; removed three inches of rim of acetabulum; no ligatures.	Water dressings; fever slight; symptoms improved for four months, when leg became œdematous, and he died 4½ months after the opera tion; Bright's disease of kidneys, and caries of vertebræ found,	Smith.
19, F.	--------	Three years.	Caries; head dislocated.	1849; crucial incision; removed head and trochanter major.	Recovered perfectly.	Fergusson.
20	--------	--------	--------	1849.	Recovered, with perfect motion of the thigh, & could walk a short dist'ce.	Morris.
21, F.	12	--------	Large open sore on hip; caries; sinuses; emaciation, etc.	1849; straight incision; common saw; removed 4½ inches.	Placed in straight position; slight fever; symptoms soon improved; ulcers healed; health gaining.	Cotton.
22, M.	41	Two years.	Great suffering, grating in joint; large discharge of matter.	1850; made a T incision; capsule entire, except at inner edge; removed below great trochanter; head carious, edge of cavity.	Wound cicatrized rapidly; severe symptoms all subsided; died three months after of dysentery, the wound being nearly healed: parts found in a healthy condition, and in an advanced stage of repair.	Buchanan.
23	--------	--------	Caries; head and neck partially destroyed.	1851; removed head.	Wound healed, but abscess formed; did not progress very favorably.	Sayle.
24, F.	10	Several years.	Feeble and emaciated; fistulæ discharging freely.	1852; circular incision; large collection of pus under gluteim.	Symptoms rapidly improved; made extension by weight attached to foot; wound healed.	Stanley.
25, F.	10	Four years.	Head carious; emaciation and hectic.	1852; straight incision; removed one inch below trochanter; also edge of acetabulum.	Progressed favorably two days; died on 3d day after operation; found large perforation of acetabulum.	Hawkins.
26, M.	10	--------	Caries and dislocation.	1852; bone separated while sawing.	Cold water dressings; pulse unaltered three days; death on 12th day,	Bigelow.
27, M.	14	--------	Greatly reduced; bone dislocated.	1853; neck and great trochanter removed.	Rapid improvement; suppuration profuse; died some months after.	Erichsen.
28, F.	12	Long standing.	--------	1854; removed head and both trochanters.	Improvement marked.	Fergusson.
29, M.	8	Long standing.	Gt. emaciation; hectic, caries.	1854; removed head and edges of acetabulum.	Recovered.	Erichsen.

Art. V.—*Case of Circumscribed Abscess in Bone.* By P. C. Bleek, M. D., of King's County Hospital, N. Y.

The surgeon who first described a case of small circumscribed abscess in bone, and drew the attention of the profession to that very painful and important disease, was Sir Benjamin Brodie,* a discovery which reflects the greatest credit on the sagacity of that celebrated man; for, since he first discovered and described this complaint, and suggested the proper treatment for it, a great many limbs have been preserved and made useful again, that otherwise would have been amputated,—each one saved being another proof, that he is a greater surgeon, who shows how to save a limb, than he who can amputate it in half a minute or less.

Sir B. Brodie was first led to his discovery by examining a leg which he had removed from a young man, and finding that a small abscess in the lower part of the tibia had been the cause of all the patient's suffering; from that time he always trephined in cases where from the symptoms he suspected abscess in the bone, and his operations were always followed by the best results. Other English surgeons, following his example, found the operation equally successful.

Stanley, in his *Treatise on Diseases of the Bones*, gives a full account of this disease. Some German writers† also describe it in their manuals on Surgery, although we do not know that any German surgeon has published a case of the kind as having occurred to himself. The following, it is believed, is the first case of which we have any account in this country.

The patient, John Ryan, aged 32 years, was admitted to the King's County Hospital, from Williamsburg, Dec. 22d, 1853. He complained of an excruciating pain, which had troubled him incessantly for six weeks, in the middle of the left tibia.

He gave the following history of his complaint. When nine years old he met with an accident, which caused compound fracture of the left leg, and was confined to his bed in consequence for two years, during which time several pieces of bone, from half an inch to 1½ in length, exfoliated. Not until six years after the accident was the leg completely healed up, and after that time it did not trouble him, with the exception of the scars on the skin inflaming and ulcerating. These sores, however, always healed up quickly, when properly attended to. The bone itself had remained quite strong.

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* *Lectures on Pathology and Surgery.* By Sir B. Brodie. 1846.

† Bardeleben's *Translation of Vidal's Surgery*, vol. ii., p. 531. Wernher's *Surgery*, vol. i., sect. 2, p. 863.

Six weeks before his admission to the hospital, he suddenly felt a severe pain in the diseased leg. This pain increased, and became so severe that his appetite left him and he could not sleep. When he came to the hospital, he had made up his mind to have the leg taken off, rather than suffer the pain any longer. The man was apparently strong and healthy, but his face was pale, and showed by its expression that he was a great sufferer. The organs of respiration and digestion were quite healthy; tongue clean, bowels regular, pulse frequent. The skin covering the anterior part of the middle third of the left tibia was changed into cicatrized tissue, and was of a rose color. A portion in the center of this had a shining and uneven appearance. The size of the tibia in the part corresponding to the cicatrized tissue was enlarged, resembling the callous thrown out around a fractured or necrosed bone. Just in the center of this enlarged part of the tibia, corresponding with the above-mentioned swollen and uneven portion of the cicatrix, was the seat of that excruciating pain of which the patient complained.

Dr. Turner, who first examined the patient on his arrival at the hospital, diagnosed an abscess in the tibia, and placed the patient under my care. My opinion agreed with his, with the exception that I supposed necrosed bone inside the tibia might be the cause of the trouble. We agreed, however, that the tibia should be trephined on the spot where matter was suspected.

The operation was performed Dec. 27th, the patient at the time being under chloroform. Two incisions, crossing each other, were made over the seat of pain. Then, after having dissected from the bone the four flaps thus formed, I applied a trephine, about half an inch in diameter. On withdrawing the trephine, in order to see if it had penetrated deep enough, about a teaspoonful of laudable pus escaped through the hole made by the pyramid.

After having trephined a little deeper, the cavity in the bone was reached, and the trephined portion was easily removed. Only very little pus had remained inside, and no necrosed bone was found. The piece of bone removed by the trephine had, on its inner surface, an excavation about half an inch in its longest diameter, the greatest depth of which was penetrated by the pyramid. The cavity was then filled with lint, the patient placed in bed, and an anodyne ordered.

Dec. 28th.—The patient complains of much soreness in the wound, but the severe throbbing pain has entirely left him since the operation; warm-water dressings applied to the wound.

Dec. 30th.—He says that he feels first rate; scarcely any pain; has slept well; appetite is very good. The wound in the bone begins to suppurate and granulate.

A fortnight after the operation, he left the hospital, feeling quite able to work at his trade, and being very anxious to support his family. The wound in the bone at this time was filled with good and healthy granulations; only the upper margin of the bone was not covered by them. The cut in the skin had commenced to cicatrize from the corners, the four flaps having retracted almost entirely.

Two weeks afterwards the patient presented himself at the hospital. He said, a few days after he left the hospital, several small splinters of bone had come away from the upper margin of the wound in the bone. Since then this part had been covered completely by granulations. The wound is cicatrizing rapidly now. He is able to walk without the least trouble. Has had no pain whatever; sleeps and eats well, and is very thankful for his recovery.

About nine months afterwards, I saw him again. His leg had remained strong and free from pain ever since the operation. The wound had soon healed up, and the cavity in the bone was filled with bony substance. Only a slight depression showed the spot where the trephine had penetrated the bone.

ART. VI.—*Elkoplasty, or Anaplasty applied to the treatment of old Ulcers.* (A reply to Dr. Watson's "Reclamation.") By FRANK H. HAMILTON, A. M., M. D., Surgeon to the Buffalo Hospital of the Sisters of Charity.

A SERIOUS misapprehension of the nature and purpose of my late operation of Elkoplasty, has provoked, on the part of an esteemed friend, a "Reclamation," accompanied with a brief homily on morals and ethics, the tone of which is somewhat severe, and, as I trust I shall be able to show, in its present application at least, undeserved.

"In our current medical literature we occasionally meet with the announcement of surgical operations and of other performances, as novelties, which have no claim to be so considered. In some instances of this sort, I have seen friends and acquaintances unjustly overlooked; and in some, again, I have had reason to complain on my own account. Up to the present time, however, I have been willing to allow whatever little may have been added to the stock of surgical knowledge by myself to make its own way in the world, and pass for what it is worth, independent of the source whence it came. Nor should I on the present occasion deviate from this course, had I not in view the correction of an evil which appears to be on the increase.

The eagerness with which the busy practitioner is now and then solicited to write for the periodicals, and the little time he usually bestows upon his literary contributions, may offer some excuse for the unintentional oversights, or acts of injustice to which I now allude. But it should be remembered that the desire of being useful is not the only incentive to authorship; and that, among the rewards of the medical writer, not the least is the favorable notice of his labor by his professional brethren.

I would not do our critics and reporters the injustice to suppose that in any considerable number of instances, the oversights to which I allude are intentional. Hasty composition and deficient information will explain the most of them."

Such is the language employed by Dr. Watson in his Reclamation, and, in illustration of the justness of which, he has called attention to my paper on Elkoplasty, read originally before the "Buffalo City

Medical Association," and published in the September number of this journal.

Dr. Watson assumes that, in the paper referred to, I claim to have been the first to cure an ulcer by Anaplasty: of which claim, he affirms, "in his proposal as well as in his results, Dr. H. has been anticipated by myself, once in April, and once in July, 1844."

To which I beg courteously to reply—

(Waiving for the present the inaccuracy of the statement, that I have at any time offered such a claim) Dr. Watson did not anticipate me in my "proposal" to cure ulcers by Anaplasty.

He has mistaken the application, and the principle of my operation.

He has not anticipated me in my "results."

Each of these several propositions I hope soon to make good.

Dr. Watson finds that his first proposal to cure an ulcer by Anaplasty was made in 1844. The patient was admitted to the Hospital on the 19th of April, 1844, and the operation was made on the 27th of July of the same year.

If this was not the first proposal of the kind made by himself, it is, at least, that upon which in the present instance he relies to convict me of "injustice."

Of the precise month and day, upon which my "proposal" was made, Dr. Watson had probably no knowledge, for I do not see that he could have had the means of knowing; but that he had the means of knowing the year with certainty, the following, from the very paper which provokes his censure, is sufficient evidence. "In the report of my surgical clinic for 1846,"[*] etc., etc. "*Two years before the date of this clinic*, when I took the cast alluded to in the above report, I made the same proposition to the lad, and when he declined submitting to it, I appealed to his father, who was a worthless inebriate, to allow me to secure one of his legs to his son's, that I might make the transplantation from him."[†]

Thus far my proposal dates from the year 1844. How, then, could a writer, impressed with the necessity of vindicating his own rights, and the rights of his friends against unjust claims, have incurred so plain a risk of subjecting himself to the keen and polished points of his own weapons! How could my friend assume so positively that, in the "proposal" as well as in the results, he had anticipated me? For it not only might have happened, for aught that he knew to the contrary, that I had anticipated him at least three months, but it actually did so happen. The cast was taken, and the proposal was made on the 10th of January, 1844, as the records of my clinic will show.

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[*] *N. Y. Journal of Med.*, vol. xiii., p. 168.—HAMILTON *On Ulcers treated by Anaplasty.*

[†] Ibid., p. 168.

I am aware how immaterial the discussion of this point may seem to my readers, but since it is made to occupy a prominent place in the Reclamation, I trust no apology on my part is necessary.

It may not, however, be regarded as immaterial, that I should attempt to show that he has mistaken the application of my operation.

I knew very well that Anaplasty in some form had been before applied to the treatment of ulcers; I had often seen it so applied: I had so applied it myself in numerous instances. Indeed, if one will read "Velpeau's Operative Surgery," the same which had been translated by Townsend, and in the American appendix to which is contained a report of Dr. Watson's first case, he will find that M. Velpeau himself has proposed and practiced the cure of ulcers by Anaplasty.

"*Anaplastie par simples incisions latérales. Procédé de Dieffenbach.* * * * * * C'est une méthode opératoire qu'on a déjà mise en pratique autour de la bouche, aux joues, au voile du palais, sur les côtés de la plupart des fistules, que j'ai essayée aussi dans certains cas d'anus contre nature, *d'ulcére des membres*, de perforations de la voûte du palais."*

The application of Anaplasty to the treatment of ulcers, or granulating surfaces, is, I conceive, as old as Anaplasty itself. Surgeons have never ceased, since I began my apprenticeship, to resect or quicken the edges of stubborn, callous ulcers, and, either with or without such lateral incisions as are described by Velpeau, to attempt anew the closure of the wound by sutures, straps, or bandages. Nor does my omission to allude to this imply ignorance of the fact, or improper motives, any more than does Dr. Watson's omission, in the published report of his case, in the appendix to the American edition of Velpeau's Surgery, imply ignorance or improper motive; a report which he furnished himself to Dr. Townsend. ("Communicated by Dr. Watson for this work, and never before published."†)

The operation which I proposed had a limited and special application. It was intended, not for all ulcers, nor, indeed, for all "old" ulcers, as the title of my paper might possibly imply, but only for a peculiar and unusual variety of old ulcers, which could not very well have been specified in the title, but which have been carefully described in the course of the paper.

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* *Nouveaux Éléments de Médicine Opératoire.* Par Alf. A. L. M. VELPEAU. Edit. 1839. Tome Première, p. 631. Paris.

† Op. cit., vol. i., p. 711.

"Some writer has said, 'old ulcers in 1830 will be old ulcers in 1860,' which, not to be understood always in a literal sense, was intended only to express, in a brief and pertinent form, the proverbial obstinacy of this class of sores.

In most cases, the integument has been broken and destroyed by ulceration, and then, usually, bad health, or, perhaps, enlarged veins, have helped to perpetuate the lesion. *In other cases, however, the ulcers are directly in consequence of lacerating injuries, which have at once torn away the skin beyond the power of nature to repair; and that although the health of the body and of the limb may be perfect. In such cases, the refusal of the ulcers to heal is entirely owing to the extensive loss of integument.*"[*] . . . .

"I beg to suggest a procedure which, hereafter, in some unfortunate cases of *this class*, may deserve a trial."[†]

"*Summary*:—

1st.—Ulcers, accompanied with extensive loss of integument, do generally refuse to heal, whatever may be the health of the body or of the limb.

2d.—Anaplasty will sometimes succeed in accomplishing a permanent cure, and especially where the health of the body and of the limb are perfect, and where, by inference, the refusal to heal is alone attributable to the extent of the tegumentary loss."[‡]

I do not know that I could have been more explicit.

Whether such cases ever occur, in which the refusal of the ulcer finally to heal is entirely owing to the great amount of integument which has been lost, is certainly another question, and one which it may be proper hereafter to consider.

Is it not plain, then, that the "application" of my operation has been misapprehended, when a case is cited as its parallel[§] in which "the cavity was about two inches and a half in its shortest diameter," and, as the accompanying engraving will show, was but little more in its longest diameter—in which the obstacle to closure was the complete inversion of the margin of the skin, so that the hair actually lay against the bottom of the cavity; with a necrosis of the external plate of the skull, which was lying exposed at the inner, outer and lower margins of the cavity—and this, possibly, as the report intimates, dependent upon some remaining venereal taint? That these were the only obstacles to closure we infer, because such obstacles are stated to have existed, and no mention is made of any other impediments. It is not said that the loss of skin had ever been very extensive, or that one line of new skin had ever formed upon the margin of the old, or that the integuments in the vicinity had been drawn centripetally until their elasticity had become exhausted.

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[*] *New York Jour. of Med.*, New Series, vol. xiii., p. 165. Elkoplasty.

[†] Ibid., p. 167.

[‡] Ibid., p. 172.

[§] Velpeau's *Operative Surgery*, by Mott. Vol. i., p. 711. American Appendix

No less has Dr. Watson misapprehended the principle of my operation; a principle which derives its suggestion from the peculiar necessities of the ulcer described, and by application to which form of ulcer alone could it have found a satisfactory solution.

Permit me to read the report of my clinic as contained in my paper on Elkoplasty.

"The Dr. has proposed to the boy a plastic operation, with the view of planting upon the *center* of the ulcer a piece of new and perfectly healthy skin. He proposes to take this from the calf of the other leg (having secured the two together), *not intending to cover the whole sore, but perhaps two or three square inches, which he believes will be enough to secure the closure of the whole wound in a short time.*" p. 168.

Again:

"By this means, I hope, gentlemen, not only to supply an amount of skin equal to the size of the piece transferred, but to furnish, also, a nucleus from which additional skin shall be formed. I hope to establish a new centre of life—an oasis—from whose outer verge a true and healthy vegetation shall advance in every direction over the exhausted soil. * *

It is not improbable, also, that the graft will itself expand, or be drawn centrifugally by the contraction of the surounding granulations and cicatrix, conversely, as the skin about the ulcer had before been stretched and drawn centripetally, by a similar action of the granulations and cicatrix situated within its free margin, so that, after a time, it will cover more space, independent of any actual growth, than it did originally. The opposite of this happens usually in Anaplasty, and would occur here, did the flap equal or exceed in size the wants of the parts to be supplied. The flap would contract, thicken, and project itself above the surface. But in old ulcers, it will generally be found impossible to furnish a direct supply of integument equal to the loss. A deficiency must probably still exist, and sufficient, it is believed, to determine in the transplanted skin a necessity of expansion.

The value and practicability of these views are, I trust, in a measure established by the results, in the case which I shall now take the liberty of bringing before you." p. 167.

And as if this were not sufficient to declare my meaning, I have repeated these essential points in a *Summary*.

"3d.—The graft must be brought from a part quite remote; generally from an opposite limb, or from another person.

4th.—If smaller than the chasm which it is intended to fill, the graft will grow, or project from itself new skin to supply the deficiency.

5th.—It is not improbable that the graft will expand during the process of cicatrization at its margins, but especially for a time after the cicatrization is consummated.

6th.—In consequence of one or of both of these two latter circumstances, it will not be necessary to make the graft so large as the deficiency it is intended to supply." p. 172.

Yet Dr. Watson believes that the only points of difference between our cases, "at least so far as principles are involved," are that in my case the flap was taken from an opposite limb, in his, from the immediate vicinity of the sore—in my case the knife was used; in his, the knife in one instance, and a wash of concentrated aqua ammonia, in the other!

I confess that in my failure to explain myself intelligibly to a mind which, a personal acquaintance enables me to say, is so quick and discriminating, I have experienced no little mortification. I am compelled to believe that my statements have lacked perspicuity. So far, indeed, is he from having entertained the idea, or the principle upon which alone my procedure was based, it has not yet been suggested to him, for he has in his closing paragraph, as if by accident, described the very case, or a case closely analogous to that for which I have proposed to operate, and then he has left it without any remedy, except the too-often ineffectual resources of Nature.

"But so far as the mere closing of the simple ulcers is involved, thanks to the elasticity and yielding power of the skin, the anaplastic method is rarely necessary. In those of moderate size, and in some, too, of immense size, Nature does the work of reparation with very little assistance, provided, always, that little be judicious. And on those again of *greater size*, such, for example, as result from extensive burns and scalds, or from diffuse gangrenous erysipelas, a flap of sufficient dimensions to cover them could hardly be removed with safety from any part of the body."*

Since, then, "a flap of sufficient dimensions to cover them could hardly be removed with safety from any part of the body," I would again suggest that we should, in a few extreme and nearly parallel cases (I allude to the cases which I have myself described), endeavor to establish a new center or focus of cicatrization.

In the report of Dr. Watson's cases, no allusion is made anywhere to the impracticability of engrafting a sufficient amount of skin to completely supply the loss. The case itself, for which alone I have reserved the operation, did not exist. The ulcers were so small, that to supply the *entire* loss by Anaplasty was not impracticable. The integuments in the vicinity were not so contracted and drawn in towards the sore, as that to employ them for the purpose of covering it over would be only "substituting one ulcer for another" (p. 167 of my paper). Very naturally, therefore, it did not occur to Dr. Watson what modification of Anaplasty might be necessary in case these difficulties had actually existed. One seldom thinks to provide for an absent emergency.

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* *N. Y. Jour. of Med.*, vol., xiii., p. 344. Dr. Watson's Reclamation.

That Dr. Watson has not anticipated me in my *results*, it is scarcely necessary for me now to repeat. He has never yet thought of making the flap smaller than the space which it is intended to supply, and then trusting to growth and expansion of the graft to complete the cure. The cases in which he has operated have not involved the necessity of this expedient. He has not, therefore, adopted my procedure, nor obtained my results.

The second case (G. C.), referred to by Dr. Watson in his Reclamation, was never published, until it was drawn from the Hospital records to answer my "claim," and I have, therefore, thus far confined the comparison of principles and of practice to the analogies or dissimilarities to be observed between my case and the case published in the American Appendix to Velpeau's Surgery, and furnished by Dr. Watson.

I am certainly not responsible for never having heard of the case of G. C., although it might have been "much talked about at the Hospital and elsewhere." Yet this case possesses, certainly, more features in common with my own than the one published in Velpeau. The ulcer had been caused by the sloughing of the toes and metatarsal bones of the right foot; the stump would not heal permanently, but continued at intervals to close and again open, causing him serious annoyance. At the time of the operation, a callous ulcer existed upon the end of the stump; and this ulcer had existed during most of ten years. It is probable, therefore, that one obstacle to the closure was the tense and inelastic condition of the adjacent skin; but that this was not the sole, or even the principal obstacle, is evident from the fact that the operator was able to supply the loss by a flap obtained near the sore. It is quite probable, therefore, that the callous condition of the sore, and its peculiar situation on the end of the stump, constituted the main impediments. Yet I will not deny that it may have been a case nearly in point, and for which I should have suggested, rather than the less certain method of supplying the loss from the adjacent skin, the method adopted by myself, viz., of transplantation from a remote part.

Whether any cases ever occur in which an ulcer refuses to heal, chiefly or solely because of the great amount of integument which has been lost, I will now consider.

I have said that ulcers generally close over by either the formation of new skin, or by the condensation of the granulations and the consequent contraction of the old skin. The limit to the centripetal contraction of the old skin is determined by its extensibility, qualified sometimes by the proximity of a joint, and the more or less flexure of the parts over which the integument is drawn. To this contraction there is, then, doubtless, a measure. It is not competent to the supply of every supposable loss of integument, and what hereafter remains to be done must be accomplished solely by the formation of new skin, and this mostly, if not wholly, as an outgrowth from the old. The exceptions which occur to this rule are too few to encourage us ever to rely upon them for aid. Let us determine, then, whether also to the formation of this new tissue there is a limit, or whether, on the contrary, it may continue to develop itself indefinitely. It will be fortunate if the latter supposition proves to be the correct one.

When an ulcer is healing, what do we observe? First, the granulations rise gradually towards the surface, until, along the margins at least, the level of the adjacent skin has been attained. At this moment, the new skin begins to form upon the peripheral granulations, as a pale pinkish circle, which becomes daily more and more opaque and white, until, in the end, it approaches very nearly to the color and firmness of the original structure. This process is at first rapid, and promises soon to close over the most extensive wounds in a brief period. And whether the wound is large or small, the same thing may be seen—the formation of new skin tissue is at first rapid, if the health and other circumstances are favorable. Soon, however, it is observed to progress more slowly, and even in ulcers, which were from the beginning quite small, we are often surprised to find how tedious, after a few days of rapid progress, are the final stages; and how long a time it takes to close up the last few lines of its surface. Nor is this change in the rapidity of the process by any means owing to a change in the health of the patient. It may often be observed to occur, and with the same uniformity of decline, when the health of the person affected is daily improving. Nor is it, again, because the extensibility of the skin in the vicinity has been exhausted, that this delay occurs, for I am speaking only of the new growth, and it is of this that I observe so constantly that *its* progress or development is daily more and more tardy. I wish to explain this phenomenon.

I think new skin tissue is formed, not simply upon, but in some sense, *by* the old tissue. When, therefore, I say :—" The formative power of the old skin does not extend beyond a few lines. The new vessels, becoming more and more attenuated as they stretch inward from the periphery, lose, at length, the power of generating epithelial cells, or, if formed, they are too imperfectly organized to sustain an existence, and they crumble away from the slightest provocation" (*page* 11 *of Article on Elkoplasty*) I have sought only to express my convictions that the new tissue was dependent upon the old for its material of repair. A belief which, with modifications, is entertained by many pathologists in common with myself. Mr. Miller observes, "As a general rule, integument is formed *by* and from integument,"* which expression he afterwards explains to mean, " It is not intended to be understood that the original skin sustains both the production of the organizable material, and the management of the organizing process; the major part of the blastema, whence the cuticular formation is produced, is doubtless furnished by the parts immediately beneath—granulations; and these may also contribute much to the organization. But the process of organization is *commenced* by the original skin, in that portion of the blastema with which it is in immediate contact; and continuance of the process is then, doubtless, maintained by those parts, whether recent or old, with which the advancing pellicle comes in contact."†

But certainly this is a point in pathology which is yet far from being absolutely determined. Whether the lymph which is to develop subsequently into epithelial cells has issued from the capillary vessels of the old skin, or from the vessels of the granulations, the microscope does not decide. The vessels from both of these structures are lying in close juxtaposition, if they are not actually in inosculation, wherever the epithelial cell or its plasma is sought to be obtained. The precise source, therefore, of this reparative material, remains at present a matter of conjecture. Mr. Miller believes that the old tissue furnishes the first plasma, and that subsequently the granulations assume this function entirely, leaving the old tissue no other duty, perhaps, than that of " management," or the assimilation of the products.

I wish to express my dissent from only the latter part of this hypothesis, and to explain more fully why I suppose that the old tissue continues to the last, not only the management, or adaptation of the new material, but also the production or effusion of the same; from which, also, I shall deduce the inference, that, when the old skin or its vessels fail to furnish a supply of blastema, the cicatrization must generally cease.

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* *Principles of Surgery*, by JAMES MILLER. 3d Amer. Ed., p. 199.

† Page 199.

First.—If the granulations or their appropriate vessels are competent, after the process has been commenced by the vessels of the old skin, to the formation of suitable plasma for the construction of epithelium —if this is with them a usual or a normal function, then ought they to perform this duty with as much speed and certainty as did the vessels of the old skin, whose function they have now assumed. But the fact is otherwise. The process, at the moment when it is believed that the skin has relinquished its productive agency to the granulations, languishes and finally ceases altogether.

If, however, we regard the new skin tissue, or the lymph of which it is to be constructed, as always a product of the old, or at least that the new material shall always require some element of matter from the old skin, which shall determine its development into epithelium, then we can readily understand how the gradual diminution of the capillaries through a new and always less perfectly organized structure shall at length render it impossible for them to furnish the plasma requisite for the repair, or for the construction of epithelium cells.

Second.—There are many analogies in the various processes of reproduction and repair which furnish support to this doctrine. Each tissue, when inflamed, furnishes a reparative material like that from which itself has been constructed. " When it is seen that in inflammations of bone the lymph usually ossifies; in those of ligament, is converted into a tough ligamentous tissue; and that, in general, lymph is organized into a tissue more or less corresponding with that from whose vessels it was derived; it is usually concluded that this happens under what is called the assimilative influence of the tissues adjacent to the organized lymph. But we may better explain the facts, by believing that the material formed in the inflammation of each part partakes, from the first, in the properties of the material products of that part; in properties which we know often determine the mode of formation independently of any assimilative force."*

I think, moreover, this case itself—the ulcer which continues to cicatrize more and more slowly—furnishes evidence that it is not by the law of analogous formations, or by assimilation, that epithelial cells are here determined, since this law would continue to operate to the consummation of the cure, and that without delay or abatement.

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* *Lectures on Surgical Pathology*, by JAMES PAGET. Amer. Ed., p. 223.

Third.—I have made a careful vertical section into the new skin, parallel to and about one line from the visible margin of a healing ulcer, and I have observed that the process of cicatrization, along this margin, was on the third or fourth day thereafter sensibly delayed. This I have repeated many times on ulcers, at various stages of cure, and always with the same result, provided the walls of the incision were kept only slightly asunder after the wound had been made.

I do not see how this incision should have disturbed the plastic or assimilative force of the free and yet unbroken margin, nor how the circumstance of retardation can be explained, if we believe the granulations below alone furnish the supplies for the new skin. And yet the fact finds a ready solution in the hypothesis that the old skin, or its capillaries, were the vehicles of nutriment for the new, and that by this bisection of their channels the supply has been cut off or interrupted.

My argument is, finally, that such cases as I have supposed, in which the ulcer will refuse to heal, solely because of the extent of tegumentary loss, do and must continue to occur, from the very laws which govern the cicatrization of such wounds.

That they do occur, I affirm also from my own observation and from the concurrent observation of others. Again and again do we find it necessary to amputate a limb, because the integument has been stripped from it beyond the power of nature to repair; and if the same results do not follow after extensive burns, it is, doubtless, because the original skin is only partially destroyed over all this surface, and there remains, therefore, a multitude of little islets from which new skin is capable of advancing.

As pertinent to this question, I will quote from a recent American reprint: "Cicatrization advances with greatest rapidity around the edges of the sore; the center taking the longest time to heal, in consequence of the activity of the process appearing to diminish, the further the new skin extends from the old tissues. *Indeed, if the ulcer be large, there may not be sufficient for the cicatrization of the center.*"*

But if it were true that all ulcers may in time be cured, under proper medical treatment, may it not be well to interfere in some cases of very much delayed healing? One of Dr. Watson's patients had waited ten years, and yet the sore refused to heal, and during a part of this time he was under Dr. Watson's care, and in bed. That all sores will not heal in ten years, even under good management, this case sufficiently illustrates; and I think there are very few large hospitals in which many similar cases might not be found.

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* *Science and Art of Surgery*, by JOHN ERICHSEN. American Edition, p. 69.

ART. VII.—*On the Cause, Nature, Cure, and Prevention of Epidemic Cholera.* By M. L. KNAPP, M. D., late Professor of Materia Medica, and President of the College of Physicians and Surgeons of the University of Iowa; late Professor of Obstetrics and Diseases of Women and Children, in Rush Medical College; Author of "Lectures on the Science of Life Insurance," etc., etc.

TAKING a survey of the human family inhabiting this earth, it is the work of but a moment only, to examine the several agents in the material world that support them in life and maintain them in health: food and drink, atmospheric air, heat, light, and electricity, are all.

Medium, or moderate impressions of these agents necessary to life, or vital stimulants, maintain a physiological state, or the condition of comfort, buoyancy, and happiness, called health. Any other than medium, or moderate impressions, either in force or quality, especially if long continued, induce a pathological state, or a condition of discomfort and tendency to death, called disease. It is to be observed, however, that a considerable variation is compatible with health, especially if neither sudden nor long continued. Man is most comfortable, for instance, in a temperature of about 65° F., but he can withstand 100° if not long continued, or 20° below zero. So of all the vital stimulants, moderation is the law of health. But the earth must wheel its stated course around the sun, producing the phenomena of the seasons; hence, man must be subjected to extreme impressions in summer and winter, and the vegetable kingdom to droughts, frosts, and blights, abridging the vital stimulus of food. These are the laws of Nature, and in them are involved the causes of disease. No other external influences are known, or acknowledged to be present in the physical world, by which the health of human beings can be disturbed, and cannot be admitted without hypothesis.

Discarding all the hypothetical causes of Cholera that may have been offered, such as contagion, infection, epidemic influence, an imaginary entity, possessing the quality of portability, astral influence, malaria, or miasmata, (whether vegetable fungi, or animalculæ); telluric emanations; supernatural agency, called the displeasure of Providence, or the vengeance of God; I look only to known, natural causes of disease, or extreme impressions of the natural vital stimuli, for the cause of Cholera, and a rational explanation of all the phenomena it presents.

Deviations from a healthful standard, in the impression of the vital stimulus of food, or alimentation, constitute one class of causes of disease.

On this proposition I remark, that the natural law, governing man as an *omnivorous* animal, is as imperious as that which has ruled the ox, *herbivorous*, or the tiger, *carnivorous.* Infractions of this law call for a penalty; and it is as much a violation of it to withhold *all kinds*, or a variety of animal and vegetable food and fruits from man, as to stall-feed an ox on meats, or to graze a tiger on clover.

Deviations from a healthful standard, in the impression of atmospheric air, constitute another class of causes of disease.

On this proposition I venture the remark, that this source is most accused, but least at fault. Oxygen is tempered by nitrogen to a suitable medium standard for life and health, and the vegetable kingdom is continually absorbing its accidental impurities, and exchanging pure air: maintaining it in *statu quo*, or at the healthful, natural standard. It is impossible for more than merely confined localities to have an impure air, and ventilation quickly corrects the evil.

Deviations from a healthful standard, in the impression of heat, light, and electricity, always united, so far as science reveals, constitute a third class of causes of disease: these second and third classes are called meteoric causes.

On this proposition I remark, that the power for good or evil of this class of vital stimulants, as manifested in the annual variations of the seasons, is more remarkable upon the vegetable than animal kingdom. Man being enabled to heat up his system by oily, animal food in winter, and to avert, measurably, the discomfort of the high temperature of summer, by a diet of cooling acid fruits, can, by studying the laws of diet, greatly accommodate himself to these exigencies.

Here, then, this important matter is narrowed down, and presented to our common sense under three heads, embracing all known external influences in the material world capable of producing disease; and it follows, as a matter of course, that the cause which produces Cholera is to be looked for in one, or in two, of these sources, or in all three united. Now, it seldom happens, according to general observation, that great sickness and mortality occur, without the combined and coöperating influence or agency of these three causes, one acting as the remote or predisposing cause, and the other two as exciting causes. The question, then, naturally propounds itself here, Which of these causes is most probably the remote cause of Cholera?

Looking at the phenomena as presented in the spread of Cholera, the two meteoric classes of causes named, covering high solar heat or insolation, vitiated air, vicissitudes, or sudden changes from heat to cold, and *vice versa*, humidity, rains, gales, tempests, thunder-storms, and the barometrical phenomena noticed, appear in immediate connection with its outbreaks, progress or aggravation, and are not only generally considered, but are universally held and conceded to be, its *exciting* causes. Hence it follows, that some error in the vital stimulus of alimentation is the *remote* cause of Cholera: there is no other remaining source in the world from whence to derive it.

Forced to this conclusion by sound logic, I would ask in the next place, Does the error in the vital stimulus of food, which produces Cholera, most probably come of a profusion, a poisoning, or a scarcity? All the world will answer the latter; for the poor and destitute are its special victims, while the rich, having means to purchase plenty and variety, though prices be high, and so to fulfill the omnivorous law, usually escape, and under a general poisoning of the food, rich and poor would indiscriminately fall. Furthermore, the population of a country holds in the ratio of its productions: famine is always followed by pestilence. Hence I am forced again, by universal observation and the axioms of political economy, to conclude the error arises from an abridgment; and as the vegetable kingdom is most obnoxious to the meteoric influences causing blights, I infer the difficulty lies in an abridgment of the vegetable productions and stores, or a scarcity in kind, leaving the poorer classes on a cheap, stale, refuse, animal, coarse, *one kind of diet*, without succulent vegetables.

Glancing now at medical history, it appears that, down to near the close of the last century, from time immemorial, a peculiar form of disease, called scorbutus or scurvy, was the great scourge of mankind in all parts of the world, destroying more lives than all other causes of death put together, wars and accidents included. The same mystery enshrouded its nature, its cause, and its spread, that now hangs over Cholera; the same bewilderment and confusion prevailed at the bedside; all the causes that have been conjectured to produce Cholera, were conjured up, marshaled, and arrayed under plausible, specious, and imposing hypotheses, and set down by their respective advocates as the causes of scorbutus; but at last, the simple truth forced itself upon the world, that the cause of scurvy was some error in the vital stimulus of food; and it is now well enough ascertained, that the error consists in the absence of succulent vegetables: let these be wanting or even but partially wanting, for any considerable length of time, and, no matter what the diet in other respects, scurvy will make its appearance. (*Budd.*) A return to the free use of succulentvegetables and fruits, and this course pursued, will arrest and cure the disease. For the last sixty years this disease has been measurably and apparently banished, or so held at bay, or modified by the inculcated free use of succulent vegetables, fruits, and their juices, that it is not known or recognized when it does make its appearance, and its presence is not dreamed of, when but partially developed, although a whole community, municipality, or nation, may be under its power and evil influence, and all forms of disease dreadfully aggravated by its presence.

"We have seen," says Dr. Budd, "that the approach of scurvy is gradual, and that prolonged abstinence from succulent vegetables is necessary for its full development; but it is our opinion that something short of this, that a condition which might be correctly designated a scorbutic taint, must often occur in the lower classes in towns, but especially in prisons and asylums, towards and at the close of long winters, when succulent vegetables are scarce and expensive. Such a condition of the system would necessarily modify the character and course of supervening acute diseases; and it is worthy of most diligent inquiry, whether that form of scarlatina denominated *maligna*, and analogous types of other eruptive diseases, may not, in some cases, owe their peculiar aspect and character to the circumstance of a scorbutic taint already existing, when the system becomes subject to the specific poison of these several diseases. A fact which renders this probable is, that these types prevail most during and at the close of long winters. We may here notice the extraordinary prevalence of typhus in the severe winter of 1837–38, and the petechial character of that epidemic. Sir Gilbert Blane has remarked that the low spotted typhus is always most prevalent in long and severe winters. Willan also states, that the malignant form of scarlatina is usually limited to the winter months. The following paragraph, from Huxam's essay on small-pox, may also bear on this subject: 'I have never observed either the *vegetable or mineral acids* of any great service in the crude crystalline pox, but I have often found them highly useful in the *small black, confluent kind*, with *petechiæ.*' It appears to us, also, that by the common practice of physicians in many chronic diseases, patients are kept far too long a time on a diet consisting of farinaceous food. When a moderate use of succulent vegetables is considered prejudicial, it would be advisable to supply the patient with their equivalent, namely, a certain proportion of orange or lemon juice." (*Tweedie's Practice.*)

Thus the experience of Dr. Budd, and others, fully confirms the observations of the writer, that scurvy underlies and aggravates all forms of disease that are developed towards the close of winter and through the spring, and, according to the writer's experience, through the summer months also, for he has particularly noticed the great aggravation of midsummer bilious fever and cholera-infantum epidemics, after long, cold winters and retarded springs, for the last twenty years, as an invariable result or coincidence.

The outbreaks of scorbutus, then, *per se*, as well as its more hidden and complicated manifestations, follow cold winters and retarded springs; yet its pernicious influence is felt, more or less, particularly among the poorer classes in cities, every spring. It generally begins to show itself during the interregnum of vegetable supplies that occurs between the going out of old and coming in of new or fresh stores, develops into epidemic form under solstitial influences, acting as exciting causes, and recedes in autumn, or as abundant supplies of fresh vegetables and fruit greet the markets, and their plentifulness reduces prices within the limited means of the poor.

These laws of scurvy are explained by the facts, that severe and protracted winters always frost and greatly abridge the vegetables and fruits in store; that they are generally preceded by summers of great heat and drought, which abridge production; and that, added to these evils, they weaken or debilitate the systems of all, by a prolonged low degree of the vital stimulus of heat, together with foul air within doors, confinement, or want of proper exercise; and these coöperating causes, pressing with greatest severity upon the poorer classes, whose diet consists of the coarsest and cheapest kinds of stale meats and breadstuffs, with peas, and beans, at best, for vegetables, when the summer heat comes on,with other depressing and disturbing meteoric influences, acting as exciting causes, epidemic scurvy is the result; and nothing but the abundance of autumnal supplies of succulent vegetables and fruits will restore the public health.

Placing these historical facts in connection with the preceding logical deductions, the human mind is compelled to yield assent to the adequacy of the cause assigned for the effect produced; and when it is considered how true must be the adage, " there is nothing new under the sun," in the laws of Nature, I am forced to the conclusion that *Cholera is but a modified form of scorbutus*, or a younger sister-scourge of the same parentage; probably better expressed by calling it a hemorrhagic termination, or a manifestation of the dying phenomena of scorbutus.

I must either adopt this rational philosophy, or accept the most improbable alternative, that Cholera is a *new disease;* and lingering still on the confines of the history of scorbutus, I find its ever Protean character, its ever changeful, chameleon dress, its ever insidious, insinuating, stealthful invasion of masses of mankind, peculiarly situated, its ever misleading manifestations, strange vagaries, and anomalous phenomena, perfectly answering and solving the matter, if I cut myself loose from the dogma that Cholera has other, and a specific cause, and adopt this innovation in etiology, that Cholera is nothing but a symptom of scorbutus—a serous hemorrhage from the petechiæ, or lesions of the mucous membranes of the stomach and bowels.

The reasons drawn from observation, for believing Cholera to be of scorbutic character, are as follows, to wit:

1. The coincidences of cold winters and retarded springs preceding its outbreaks. It is a matter of history that the winter of 1831–32 was one of the coldest winters ever known. The rivers and harbors of the United States were frozen from November until April, and winter was literally found lingering in the lap of May. The preceding summer was one of great heat and drought. Reasoning from the intensity of these meteoric influences throughout the United States, the crops must have been distressingly abridged, the stores of succulent vegetables and fruits extensively frosted, and prices exorbitantly high in the spring of 1832. Under the operation of these causes of scurvy, active in the highest degree when the summer heat of June of that year struck the United States, the Cholera broke out in New York and other cities and large towns, and raged until the scorbutic subjects were slaughtered, and the public health was repaired by the ripening and free use of vegetables and fruits. Unfortunately for the state of the public health during that season, fruits and vegetables were interdicted by medical opinion, the notion gaining almost universal credence that they were exciting causes of Cholera; which opinion has ever since prevailed in the United States.

The same constitution of seasons, I am informed by an intelligent English gentleman, prevailed in Great Britain in 1831–32, and accordingly the Cholera broke out in London, and other large cities and towns of the Kingdom, and also in Paris and other cities of France.

Not to undertake to pursue the cause through blights, by tracing it on the back track through Prussia and Russia, the year preceding, and so on to India, suffice it to note that its outbreaks and spread in America were governed by the laws that are known to govern scurvy, the date of its advent in the cities on this continent answering to the relative intensity of the causes of scurvy that should have been, and doubtless were, present to call it into action. It broke out of priority, as it should have done, in Quebec (the colder the country, other things being equal, the more intense the causes of scurvy), on the eighth of June; on the tenth, at Montreal; a little later at Kingston, and so on in its southwest course, up the lakes, to the valley of the Mississippi, into successively warmer regions. It appeared in New York on the twenty-fourth of June; at Albany, where poverty and destitution were less intense, though the latitude is higher, on the third of July; at Boston, also later, for the same reason; at Philadelphia on the fifth of July; and at Baltimore a week or so later, and so on.

It made its appearance, partially, again in the year 1834, in the cities of the United States, after a rather cold winter, and surely the most frosty, blighting spring, within the memory of the oldest inhabitants. All the fruits, nearly, apples, pears, peaches, plums, grapes, currants, gooseberries, etc., were blighted by a chilling frost that occurred about the middle of May. The peaches, apples, etc., of the size of sparrows' eggs, fell from the trees. The very forests put on an autumnal gloom. When solstitial influences came to bear upon this preparation of the systems of thousands of the poorer classes, always most predisposed, the Cholera broke out with considerable severity in various cities of the United States. The fact was noticed, that it seemed to rage more fiercely again in the same cities where it was most severe in 1832, and where, no doubt, the causes of scurvy were most intense, and where, besides any influences of topography, the citizens were schooled and trained in the prohibition of vegetables, fruits, and greens; and the country people, not finding ready sale for these products, their culture was neglected, and they were deterred from marketing them through fear.

Again, the winter 1848–49 was a remarkably cold winter all over the United States, the spring of '49 greatly retarded, and all degrees of the scorbutic diathesis were observed at the bedside by the writer of this, who had for years been an observer of its stealthful, annual appearance. The universal spread of Cholera in the cities of the United States, in the summer of 1849, is well remembered, and its continuance until the coming in and use of the new crops of vegetables and fruits.

Casting a glance across the Atlantic, the years 1846–47 were years of dearth, scarcity, and blight in Europe, particularly of the potatoe, the most valuable antiscorbutic vegetable known; and the scurvy and Cholera together followed, scourging the nations generally. Writers in describing the spread of Cholera in Europe, in 1847, say, substantially, that it started from India again, early in that year, passed through the cities of Persia and those along the shores of the Caspian, reached Astracan in July, and appeared at Moscow, faint and weary, in the fall, where it took a refreshing sleep through the winter, but woke up in June, 1848, much refreshed and invigorated, and pursued its travels *via* St. Petersburg, Berlin, Hamburg, etc., to Edinburg and London, where it arrived in November, *en route* for Paris. It is worthy of remark that it struck England again, in her weakest and most scorbutic point, her Newcastle coal mines, and foul holds of her coal vessels; and that, prior to its reaching France, the *cause* of it set sail from Havre for America, in two emigrant ships that sailed in October and November. In the October ship it broke out when sixteen days at sea; and the emigrants were landed at Quarantine, in New York, in November, and the disease spread through the Quarantine Hospital, where the sickly, scorbutic inmates were kept on a routine dietary, and whose cup of affliction was made to run over through panic and an increased accumulation of foul air; and a few cases occurred among the immigrants that went to the "Five Points," in the city of New York, where, however, it could make no progress because of the abundance of fall fruits and vegetables, so it again slept through the winter, the intensely cold winter that followed. In the other ship it broke out when twenty-six days at sea, the *cause* in the emigrants having been more subdued before embarkation, by autumnal fruits and vegetables, than in those of the other ship, which sailed a month earlier; and the passengers were landed in New Orleans, in December, where the disease spread among immigrants and the poor, the weather, for the season of the year, being hot; and it continually appeared on the Mississippi in steamboats, among immigrant passengers, all winter. In the summer of 1849, as observed, it broke out, generally, in the cities of the United States. Now, in all these movements, or rather outbreaks, in Asia, Europe, on the Atlantic Ocean, and in the cities of America, it obeyed the laws of scurvy, and was rendered active in proportion to the *remote* and *exciting* causes of scurvy present; and the emotional, exciting cause of *fear* or panic must not be overlooked.

The more partial epidemic of 1850 is to be explained by the more partial abridgment of vegetables and fruits in various localities, owing either to blights, the withdrawal of labor from production during the sickly summer of 1849, or the false doctrine that vegetables and fruits are injurious; probably all combined. The scurvy was noticed again by the writer, at the bed-side in 1850, and it broke out in the Commercial Hospital of this city in July of that year, while the Cholera was raging here. (*Western Lancet*, 1851.)

The Cholera manifested some activity again in the summer of 1852, after another very severe winter, and a previous summer of great heat and drought, in various localities in the United States. The summer of 1852, however, was a cool one, in the main, and the exciting causes of Cholera, therefore, not powerful. Its ravages at Maysville, Ky., Wheeling, Va., and sundry other points in the Mississippi Valley, are matters of history, and can only be accounted for on rational principles, by tracing the cause to the constitution of the previous summer, abridging production in the localities surrounding the cities and towns where it raged, and the inclemency of the winter, frosting the vegetables and fruits in store. Finding that the conclusions drawn are all the way thus far supported by facts, the coincidences of cold winters, and the causes that produce scurvy, and that during other years there have been no epidemic manifestations of Cholera, the argument seems a good one and worth pursuing.

Applying the same theory, the want of succulent vegetable food, to the rather general prevalence of Cholera in the cities of the United States this season, 1854, a rather intense causation is found, of general application, in the extravagantly high prices of provisions during the present year, high prices not only betokening scarcity, but being the same in effect to the poor. I notice the fact in the public prints, that scurvy and Cholera were both found raging simultaneously in the Poor-house at Buffalo this summer.

Thus the coincidences of cold winters and retarded springs, preceding the outbreaks of Cholera in the United States, its vernal appearance, solstitial ragings, autumnal recessions and wintry slumbers, together with its uniform and close communion with scurvy, prove that it is produced and governed by the laws that produce and govern scurvy. Doubtless, if the statistics were at hand, that the meteoric phenomena and constitution of the seasons could be appealed to throughout Europe and the world, the spread of Cholera would appear as the effect of cold winters, droughts, frosts and blights, in all places wherever it has prevailed, and that its ravages would be found to be in the ratio of the intensity of the causes, remote and exciting, that produce and develop scorbutus.

2. The classes of persons who are the victims of Cholera, are those subjected to restrictions in diet; to a routine dietary; to a poor diet; to inactive habits and to confined, foul air, as soldiers in barracks and in camp; sailors and boatmen; emigrants or ocean passengers; inmates of poor-houses, hospitals, asylums and prisons; inhabitants of besieged cities; dwellers in all filthy, poverty-stricken, God-forsaken localities of cities; immigrants just disembarked; laborers on public works; and the poorer classes in cities—precisely those who, from time immemorial, have been the victims of scurvy.

3. Admitting Cholera to be of scorbutic character, all the strange vagaries attending its history and spread admit of rational explanation, to wit: its home and habitude in burning India, where the poor live on rice, any one-kind of diet without succulent vegetables being sure to produce it; its flourishing in frozen Russia, where the serfs feed on train oil; its march with armies, where the dietary is pork and beans; its breaking out at sea, without the possibility of contagion causing it, where the emigrants live on ship-bread and salted meat; its special regard for immigrants just disembarked, crowded into filthy apartments in confined localities of cities, their blood rendered still more and more scorbutic, by a continued cheap dietary of pork, bread and beans; its recession in autumn, dormancy during winter, vernal reappearance, and summer ravages; and its intensity being in direct ratio to the causes that produce scurvy. In fine, there is not, within the writer's knowledge, a circumstance or anomaly in the history or spread of Cholera, that cannot be rationally explained by assuming the disease to be modified scorbutus.

On this assumption it is not only rational but quite explicable, that one family having lived through a cold winter and spring without vegetables, should die the following summer of epidemic Cholera, or whatever form or modification scurvy may take on, it having always been of Protean character, while the neighboring family, having subsisted chiefly on potatoes, should all escape attack; that the feeble and panic-struck should fall first; that the first cases should appear to be the most malignant and die on shortest notice; that a sudden change of food, even vegetables, and boiled cabbage in particular, should appear to produce it; that great summer heat, sudden changes of the weather, foul air, etc., should develop it into epidemic form; that it should differ essentially from Cholera morbus; that it should leap from city to city, and let country people generally go free who raise, store, and consume abundance of potatoes, turnips and other vegetables, apples, peaches and other fruits, and only send their surplus to market; that it should give New England almost a *carte blanche*, where pot-luck and apples and cider constitute the winter and spring dietary; that it should travel, apparently, as we have seen it described by the date of its outbreaks, in the commercial thoroughfares, along rivers, canals, lakes, etc., and prove most fatal in the cities along those low, flat, cold, damp localities, as Chicago, Sandusky, etc., in which localities vegetables and fruits are not only scarce but of indifferent quality, and the coöperating causes of scorbutus powerful; that a villager not remote from one of those cities, whose vegetable stores had been frosted, on visiting the city when Cholera was raging, should over-task himself in the hurry of business, eat little or nothing through fear and anxiety, sleep disturbedly, see the corpse of one dying of Cholera that night at the hotel, leave for home before breakfast, reach home perfectly exhausted, be taken with Cholera and die before next morning, two or three of his family and sundry patatoless neighbors "catch it," and follow in quick succession, and a potato and turnip, beef and cabbage eating farmer-neighbor hard-by, lay out all the corpses and not "catch it;" that after killing off the constitutionally feeble, and those who had transgressed most by not eating vegetables, the epidemic should decline, and as vegetables and fruits came in and were more eaten, the later cases should become milder and more manageable; that persons flying from a city or locality where the Cholera was raging, should, some of them, be attacked, in whatever locality sought, no matter how high, mountainous, rural or healthful the place, or pure, cool, and bracing the air, the cause being in their own veins.

I notice in the *Galena Jeffersonian*, that the Cholera lately broke out among three hundred laborers on the railroad near Galena, Illinois, quartered on Scale's Mound, four hundred and fifty feet above the level of the Mississippi, the ground dry, the air pure, and no cause to be assigned for its appearance. The laborers were scattered, and down to the date of the notice, over one half of the number had died at the various points reached. The question is asked, "Who can give an explanation of the cause that produced such terrible results? Such results perplex medical science and put at fault all theories in regard to the phenomena of Cholera."

On this I remark, that, assuming Cholera to be a modified form of scorbutus, nothing is easier of explanation than the above awful catastrophe, and every similar result that swells the catalogue of this pestilence, so perplexing to medical science and contradictory to false theories. There are, comparatively, no vegetables and fruits raised in all the mining regions round about Galena, to my personal knowledg and the scorbutic diathesis is so common a phenomenon there every spring season, that it would be remarkable if absent a single year, and a miracle, almost, if absent this year of exorbitant prices. The contractor having those three hundred laborers under his care, had quartered them high and healthfully, which fresh air of heaven cost him nothing, but when it came to paying out four or five dollars a bushel for three hundred bushels of potatoes a month, the case was different; besides, the potatoes, or other succulent vegetables, were not to had at any price in all those regions in May, June, and July; and those three hundred laborers had lived on pork, and beans, and bread, until, prostrated by midsummer heat, modified scorbutus or Cholera broke out; and it broke out in them wherever they went, and slew them as transgressors of the omnivorous law, it mattered not where, whether in the temple of Hygeia or the garden of Eden: the transgression had been committed, and the penalty was sure to follow. Nothing short of a potatoe-patch might save them at that juncture, or an orange grove, which they were sure to miss in all those regions.

Thus, all difficulties vanish, darkness gives way to a fullness of light, every thing is explained on rational principles and by the natural laws—Cholera is in the *system* and not in the *air*, laid there, or produced by violating the law of kindness constituting man OMNIVOROUS, by which his happiness is so much exalted and enhanced: but the law must be fulfilled or the death-penalty will follow. With this key explaining the cause, the nature, and the phenomena attending the outbreak and spread of Cholera, it would now appear mysterious if the phenomena were different and the disease pursued any other course.

4. The phenomena of Cholera at the bed-side, with this key in our hands, reveal so plainly the pathognomonic symptoms of scorbutus, that after rubbing the eyes a little, the better to see through the drapery of some false appearances, every pathologist will discover a full length portrait. The great leading phenomenon is *diliquescence*, or a tendency to the liquefaction of the system. Vomiting and purging are but the proof of what I say, mere accidents. The serum of the blood is thus being passed off. The solids are dissolving and keep up the currents through the bowels and the skin. So in scorbutus, the dissolving of the solids is the prominent feature: hemorrhage, diarrhœa, salivation bear witness. Hemorrhage of all the constituents of the blood is common in scorbutus, hemorrhage of serum only *generally* takes place in Cholera, the structural lesions of the mucous tissues being less deep. The vital powers are at the lowest ebb in both in-

stances, and great emaciation, sudden death, and clearness of intellect till the last, fill up the measure of the leading phenomena in both. Furthermore, cases of Cholera now and then occur where there is neither vomiting nor purging, the mode of death being precisely as in scurvy, after hemorrhage or other shock, the phenomena being sinking, prostration, dyspnœa, gasping, jactitation, and death, with clearness of intellect to the last. The difference in the symptoms all told, is never half so great or apparent as the difference between the ordinary symptoms of ague and fever, and pernicious fever or congestive chill, which all pathologists hold to be the same disease, produced by the same cause.

5. The anatomical characters in Cholera, are not less positive in declaring the identity of its pathology with that of scurvy. The great structural lesion which dissection reveals, is *disintegration*, and in particular of the mucous tissues. The epithelium is detached from the internal petechial spots and passed off by the diarrhœa, constituting the white floculi in the dejections; or it is vesicated in extensively papillated patches; or abraded, but adherent in agglutinated coatings; and these morbid appearances extend not only throughout the gastro-pulmonary, but the genito-urinary branches of the mucous membranes; and patches of *ecchymoses* are often found in the mucous linings of the bowels, and a chocolate-colored fluid as their contents, denoting the oozing out of red blood; and "almost all parts of the body, the brain and spinal marrow, the substance of the heart, the abdominal viscera, the limbs, even the spongy substance of the bones, exhibit signs of venous congestion, and *large ecchymoses* are frequently found in all the parenchymatous glands." (*Wood.*) Now, not to lengthen this article by quotations, precisely the same characters are not only present in scorbutus, but they constitute *the main lesions of structure*, as every pathologist must bear witness, and the ecchymoses spoken of extend very often to the skin, constituting the petechiæ and patches of purpura, so frequently noticed.

6. The curative and preventive effects of antiscorbutic treatment in Cholera, in 1849 and '50, furnished the hints that have led to the investigations which have established the writer's present convictions and conclusions. It will readily be believed, therefore, that there was some degree or tangible amount of testimony in this way at the bedside, enough at least to set the writer thinking, reasoning, reflecting, and inquiring. Most, though not all, of the discoveries in Medicine have come in the same way. Some have been the result of the induc-

tive mode of reasoning. The curative virtues of strychnine in paralysis were inferred from *a priori* reasoing on its physiological effects.

Although scorbutus and Cholera were seen complicated, as then supposed, and domiciliated together " cheek by jowl " in 1849 and '50, in Chicago, where the writer was then practicing, and antiscorbutics were freely administered, and their happy effects witnessed from day to day, continually, in fact, throughout both epidemics, still they were never relied on *exclusively* after the patient was stricken down, for the reason that the writer had then no theory on the subject. The calomel, sugar of lead, and morphine treatment was always combined, or some other empirical resort. The scorbutic diathesis was distinctly seen for many weeks prior to Cholera becoming epidemic, and was treated alone and complicated with the various forms of vernal diseases. In looking back from the writer's present visions of the nature of Cholera, upon the chain of evidences through which clearness of views has come, it is matter of surprise now, that his conclusions should not have been earlier drawn, but such is the " magic of a name," and so powerful are imbibed dogmas in medicine, that the human mind is not left free to interpret rightly the phenomena seen at the bed-side.

The antiscorbutic remedies which the writer now sees were effectual on account of their antiscorbutic virtues, were the common salt emetic (chloride of sodium), which he was continually in the practice of administering as a first remedy, and soda powders throughout the attack. The soda powders were indifferently composed of the bicarbonate of potash or soda, and citric or tartaric acid. The salts of potash and soda, and the vegetable acids named, stand at the head of the list of antiscorbutic remedies, and the known efficacy of common salt in arresting hemorrhage also further explains its value in Cholera. These views also throw light on the success that has attended the saline treatment.

The preventive relied on was punch (lemonade dashed with brandy), with five or ten grains of quinine to the quart, and when diarrhœa was present, a grain of morphine was added. This combination was relied on from having observed scorbutus complicated with vernal agues, and midsummer bilious fevers in the malarious districts of Illinois for nearly twenty years, especially after cold winters, and from the further observed fact that Cholera delighted in the same localities, particularly along the Michigan and Illinois canal. The writer could go on and specify numerous instances of the prophylactic effects of the remedy, in families where, one or two members being struck down with Cholera, the balance were put under the daily use of the mixture and antiscorbutic diet and escaped attack. Though nearly prostrated by a scorbutic taint, and not as generally expressed by that cloak for our ignorance, the senseless phrase "epidemic influence," their strength and spirits would revive, their tongues become clean, their cholerine cease, their appetites return, and an array of evidences as strong as Holy Writ proclaim their salvation from Cholera by means of the antiscorbutic preventive.

7. The analysis of twenty cases of Cholera observed at Pittsburgh, Pa., on the 25th and 26th of September, 1854, chiefly in the Mercy Hospital, contains the crowning testimony that removes all doubt of the correctness of the writer's views, reduces the matter to certainty, theory to knowledge, and incorporates this discovery into the pages of medical literature among the established truths of medical science.

On or about the 15th of September instant, the Cholera broke out at Pittsburgh, Pa., and continued to increase in force for some eight days. On the 23d the writer repaired to said city and arrived there late on the evening of the same day (Saturday), and found the epidemic had begun to decline. The city proper was the chief locality that suffered. In a former visitation the town of Birmingham, south of Pittsburgh, across the Monongahela river, suffered most.

The epidemic commenced with great suddenness, after heavy showers of rain with thunder and lightning, and the sinking of the mercury in the thermometer from 90° to 65° F. in a single night. It broke out that night in every ward in the city, showing conclusively that it obeyed some law other than that of contagion or portability. There had occurred some half a dozen cases at the southwest end of the city, prior to that night; but on that night forty cases or more occurred in the most widely scattered manner. It struck down the feeblest member or members of whatever family it touched, and about three-fourths of all who perished during the epidemic were women—principally mothers. It did not spread through or destroy whole families, as it often does, but seemed satisfied to take the weakly and debilitated only. It increased in force for something over a week, say ten days from the first reported deaths, when the mortality reached to over one hundred deaths a day, in a population of some 60,000 souls. The crisis of the epidemic occurred under an equable temperature of about 70° F., and the abatement or decline was rapid, the weather holding pleasant.

[To be continued.]

PART SECOND.

CRITICAL ANALYSIS.

Art. VIII.—*A Systematic Treatise, Historical, Etiological and Practical, on the principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian and Esquimaux Varieties of the Population.* By Daniel Drake, M.D. Philadelphia: Lippincott, Grambo & Co. 1854. First Series, 8vo., pp. 878; Second Series, 8vo., pp. 985.

This great work is now presented to us complete as its gifted author could make it ere his earthly labors were terminated; and, though the task of filling up the plan which this great medical philosopher had elaborated and nearly perfected yet lacked a few finishing touches, his name will need no other, and could have no more enduring monument than this incalculably valuable contribution to the literature of our profession.

But Dr. Drake did not labor for personal fame: he was one of Nature's noblemen, and needed no such incentive to activity. Loving knowledge for its own sake, he sought and studied facts as nature presents them, traveled over vast distances, entered into extensive correspondence with his brethren, that he might collect and analyze the results of their observations and experience; while at the same time he faithfully inspected and studied the medical topography of the Great Valley. This was a labor of many years, a truly Herculean task for a single individual; a task that none have shared who now enjoy the fruits. But like every true philosopher, Dr. Drake found ample reward for all his labors in the personal pleasure he enjoyed in his studies. Our author was peculiarly fitted for the great work he undertook. Since the commencement of the present century, a practicing physician in Ohio and Kentucky, where he had received his professional training, and for many years a professor in one of the largest and best medical colleges in the Valley, and a clinical teacher in one of its most important hospitals, his mind was well prepared for such an undertaking, and his masterly genius was developed in consonance with the broad and fertile expanse of the rapidly-populating territory of the Great West.

No other section of the globe presents a region, the medical topography of which can be studied upon so extensive a scale, and there is no other country where diseases present more varied and important regional characteristics:—A vast hydrographical basin, including six millions of square miles, or three-fourths of an entire continent; touching the Pole of Cold on the north; embracing in its more fertile and populous section the entire width of the temperate zone; and on the south extending by its broad base into the region of intertropical heat;—in such a vast valley the prevailing diseases must exhibit many and varied topographical and climatic as well as special pathological peculiarities, of great practical importance.

Dr. Drake's first volume relates especially to the topography and climatology of the Valley, while the second series of the treatise is devoted to the consideration of the general and the special pathology of the principal diseases, together with the leading therapeutical facts and principles which have been established by the most reliable experience. Of the first volume it may be justly affirmed that, for comprehensiveness of scope, accuracy and extent of research and detail, and scientific order of arrangement, it has no equal in the medical and topographical literature of any country; while of that portion of the treatise included in the second series, it may be safely said that it constitutes one of the most eminently suggestive and practically valuable contributions ever made to the literature of general pathology and practice.

There may be some physicians who have regarded the first series of Dr. Drake's treatise as of secondary importance, and of little practical interest to the common practitioner; but such an estimate of the extensive and highly important researches there embodied, would be an error which no intelligent physician could commit. In no unimportant degree do diseases take their main characteristics and peculiar aspects from the climatic and topographical peculiarities of the region in which they occur; hence, a knowledge of these ever-varying peculiarities and anomalous modifications, in the etiological history of diseases, is certainly of no less practical importance to the physician, than is a perfect familiarity with the established symptomatic and pathological history of any disease which is at all influenced by zymotic or other general agencies.

The immortal Coan philosopher, the father of medicine, deemed this department of our knowledge of diseases of special importance, and he wrote extended treatises on Places, Airs, Waters; and Winds. What Hippocrates so nobly attempted, without any of the aids and appliances of exact science, our author has, with a success commensurate with his almost unlimited scientific means, most satisfactorily accomplished.

An extended and complete analysis of this most comprehensive treatise would be inpracticable in the limits of this Journal, and it is not demanded, inasmuch as the work is within the reach, and should be in the possession, of every American physician. We shall, therefore, consider it our duty only to call attention to the importance of the work undertaken by our author, pointing out some of the richer fruits of his labors, while we discuss some of the more important deductions to be drawn from his experience, observations, and researches.

An eminent geologist has remarked that, "a knowledge of the hydrography of a country aids as much in determining its geology as does its orography,—that is, its description of mountains." *

As much may be affirmed of the importance and certainty of the relations naturally existing between the hydrography and climatology of any given section of the habitable globe, and the general and distinctive characteristics and peculiarities of the prevailing diseases in such locality. Given, in proper connection, the general course and character of the rivers, the character of their banks, and their mode of embouchеur; with the form, altitude, and mode of outlet of the lakes, of any given section of the earth's surface, and the main features of the geology of that region may be very certainly determined. But upon a large scale only can such investigations and deductions be reliably made, mere local descriptions furnishing insufficient data for reliable and accurate conclusions. So, in the study of medical topography and climatology, researches should be prosecuted upon an extended scale. To Dr. Drake belongs the honor of having first accomplished such researches with any thing like success, and these investigations have the merit of having been made in the most extensive hydrographical division of the globe. It should be borne in mind, that these researches possess a general as well as a local value; for the general principles deducible from such investigations will be found to apply, with greater or less certainty, to any corresponding hydrographical and climatic region of the earth. But in reference to the social and

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* *Outline of the Geology of the Globe.* By Edward Hitchcock, D. D., LL. D. Boston, 1854.

political prospects of the great Interior Valley of North America, its sanitary condition—present, and prospective, constitutes one of the most important subjects that ever invited scientific research from philosopher or philanthropist; for in that Valley is rapidly congregating a mightier nation than ever before has been gathered on any one geographical division of the earth.

A rapid glance at the Great Valley, cannot but impress any reflecting mind with the vastness of its extent, and the importance and certainty of its destiny. Even from its geographical characteristics the philosopher may read its future history as a favored dwelling place for man, and in immediate relations with this subject are all the facts bearing upon its medical topography. Standing on almost any summit of the Appalachian range, one may see the branching arms of the great Father of Waters reaching up to the eastward, almost within sight of the Atlantic; and following in the direction of these streams and rivers, towards the grand synclinal axis of the Valley, we pass over the rich alluvial bottoms in all the river courses; while over immense reaches of extent, from the fountain-head of the Ohio to the distant bifurcations of the Missouri, and to the Red River of the North, is found a soil of inexhaustible fertility, covering the upper and lower silurian geological stratas, whose disintegrating and fertilizing constituents are inexhaustible, while distributed over all the broad basin are the richest coal-fields in the world. Pursuing our course southward, we pass over a broad belt of the cretaceous series, extending from Georgia and Alabama far to the northwest, whose rich soil covers the remains of the great Zeuglodon, with huge crocodiles, sharks, and fishes; and deep layers of the half-fossilized crustacea that once peopled a shoaly sea, but now form the aptly termed "rotten-stone" of all that region; while next southward, is the broad alluvial base of the Great Valley, in the deep black soil of which, by its countless bayous, are entombed the giant animals of the Tertiary Period; and where, but recently in the earth's history, mightier rivers than even the present Mississippi found their way to the sea, through ever widening and multiplying deltas.

Descending from the Rocky Mountains, we pass over broad plains, rich savannas, and broken or rolling prairies, even richer than those which lie east of the Mississippi; while on the north, quite up to the dividing or arctic ridge—which is as far to the north as civilized man ever selects his home—the soil is wildly luxuriant, and it is a land of springs and abundant moisture. *Secondly*, this great Interior Valley is in no section of its axis elevated to a sufficient altitude to protect its population from malarious fevers—Prairie du Chien being but 642 feet above the level of the sea, the mouth of the Missouri less than 400, and the mouth of the Ohio less than 300 feet above the level of the Gulf of Mexico; while the great lakes, which drain the waters of the immense paludal region whose synclinal axis passes through those great inland seas and the St. Lawrence, have a surface altitude only of from 600 feet at Lake Superior, 500 at Buffalo, and 232 in Lake Ontario, to the tide waters of the St. Lawrence at Quebec. A valley so low and yet so wide, as is the double inclined plane of this great hydrographical basin, is not found elsewhere upon the face of the earth, while, by its unobstructed sweep from Cancer to the Northern Pole, winds and prevailing atmospheric currents are established, which, in connection with the special and diversified geographical characteristics of this vast territory, give origin to certain definite and important climatic and meteoric laws, which directly and in an important degree affect the character or determine the nature of the diseases there prevailing. Such is the field described and traversed by Dr. Drake, and such the outline sketch of the work he so nobly undertook.

In the goodly volume of the First Series of his researches, we find embodied all the reliable data he could collect with reference to every point connected with the general and the special topography of the Great Valley; and these facts and statistics are detailed in all their life-giving relations, so that even any observing, though unscientific, reader could not fail to catch some of that inspiration by which the mind of this great Naturalist and Philosopher was first enabled to glean and garner his vast collection of facts, and evoke therefrom those grand generalizations and principles which attract all readers, and have given character to the work and its author.

It is surprising to see with what comprehensiveness of scope and philosophical acumen Dr. Drake's plan of study and research swept the whole field of Nature. He attentively studied every fact relating to the topographical, hydrographical, meteoric, social, and physiological etiology of disease; the mountains, lakes, rivers, soil, and vegetation, geology in its relations, altitudes and configurations; marine and terrestrial relations, lacustrine, valley, and mountain influences, with all the climatic agencies known; and, in his extended travels, testing every doubtful question,—with his own hand and eye determining many points hitherto neglected by naturalists and philosophers; and, lastly, giving us the best tabular views of thermometric, barometric, aqueous, and electric meteorology ever yet produced, for professional purposes, in our country.

Having laid such broad and reliable foundation for the special study of the diseases of the Great Central Valley of North America, Dr. Drake's Second Series has been looked for, with deep interest, by the profession, and we think that, however high may have been any anticipations in regard to the character of this part of the treatise, there is no one but will find it fully equal to his expectations. Of its general character we have already spoken. It remains for us, now, briefly to examine the specialities of which it treats.

This Series is included in Five Parts, divided as follows: 1st.—Autumnal fever, in eleven chapters; 2d.—Yellow fever, in eleven chapters; 3d.—Typhous fevers, in sixteen chapters; 4th.—Eruptive fevers in nine; and, 5th.—The Phlegmasiæ, in twenty chapters.

Under the term Autumnal Fever, which very happily avoids any etiological or pathological hypothesis, are included all those fevers which, by some peculiar meteoric causes, are rendered strictly endemic during the autumnal season. Concerning its geographical limits, our author remarks that:—

> Being an endemic of all hot climates, we are not to look to the shores of the Gulf of Mexico for a southern limit to our autumnal fever. Its base is, in fact, within the tropics; and prevailing, of course, in Havana and Vera Cruz, it is found wherever there are inhabitants, on the northern coasts of the Gulf, between these two cities. In ascending all the rivers which discharge their waters into the northern arc of that closed sea, from Cape Florida round to the Panuco river, it is still met with, and sometimes, as we shall hereafter see, from the influence of local causes, displays greater prevalence and malignity than it shows further south and on a lower level.
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> In every other direction than the south, this endemic has its geographical limits. To the east, its barrier is the Appalachian Mountains, into the very gorges of which, however, it ascends by the valleys which penetrate their flanks. But, as that chain is not found south of the thirty-third degree of latitude, it has, below that parallel, no eastern limit but the Atlantic Ocean. To the southwest, the Cordilleras of Mexico, and the southern Rocky Mountains, constitute its boundaries; while, in higher latitudes, it ceases on the great plains of western desert, long before we reach those mountains. From what can be collected out of the travels and expeditions of Lewis and Clark, Catlin, Fremont, and Gregg, not less than from fur-traders and Santa Fé merchants, it is almost unknown at the distance of three hundred miles from the western boundary of the States of Missouri and Iowa, and above the latitude of 37° N. To the north, it does not prevail, as an epidemic, beyond the forty-fourth parallel, and ceases to occur, even sporadically, about the forty-seventh.

The conditions which impose geographical limits, and give unequal prevalence to Autumnal Fever, Dr. Drake demonstrates to exist, 1st. In the soil; the largest proportion of organic matters marking, other things being equal, the highest degree of prevalence; 2d. Living vegetation; 3d. Surface water, saturating the air with vapor, and giving a high dew point; contributing to the growth of a luxuriant vegetation, as well as to its decomposition; or, by promoting chemical action in the soil; and, possibly, (in Dr. Drake's opinion—*probably*,) determining the production of animalcules and microscopic plants, or, inducing electrical perturbations in the atmosphere; 4th. Temperature.

Our author gives us a chapter of speculations on the efficient cause of Autumnal Fever, in which is embraced a very good synopsis of the arguments usually adduced in support of the various popular theories on the subject. Concerning the hypothetical existence of a special *malaria*, he shows that, although facts undeniably establish a connection between a certain condition of the earth's surface and Autumnal Fever, they do not prove the existence of malaria, or a *gas*, as the efficient cause of the fever; and he very justly remarks "that while the conditions under which our Autumnal Fever appears are sufficiently clear to observation, the existence of a special gaseous agent, resulting from them, remains to be proved." The *cryptogamic*, or what he denominates the *vegeto-animalcular* hypothesis, Dr. Drake conceives to be the most rational and plausible,—answering more satisfactorily than any other theory all the conditions of the fever. Our author did not borrow this hypothesis from Dr. Mitchell, or any of the disciples of Ehrenberg, for in his valuable treatise on the History and Treatment of Cholera, published in 1832, he very distinctly announced his confidence in the animalcular hypothesis, as best accounting for the etiology of cholera. As regards the Fever in question, Dr. Drake remarks: "It appears obviously, I think, that the etiological history of Autumnal Fever can be more successfully explained by the vegeto-animalcular hypothesis than the malarial. But both, in the present state of our knowledge, must stand as *mere hypotheses*. Neither can claim the rank of a theory; nor will it be entitled to the confidence of the profession until many additional facts are brought to its support." But he adds: "I cannot, *a priori*, attach much practical importance to the discovery of the *efficient* cause of Autumnal Fever." He has, therefore, devoted but little space to the discussion of the subject. Those of our readers who may desire more fully to examine the various questions and facts relating to the natural history of malaria, together with the history of the opinions and arguments connected therewith, will most profitably consult the erudite treatise of Dr. La Roche, recently noticed in this Journal.

In his chapter on the mode of action and first effects of the remote cause of Autumnal Fever, Dr. Drake shows that the weight of argument is in favor of the doctrine of the primary action of the specific poison on the blood, and, through it, upon the nervous system and the solids. His remarks upon this subject are brief, and, though suggestive, contain nothing new.

Guided by those distinctive characteristics which are found to be most important in practice, our author describes Autumnal Fever under the following natural arrangement of varieties:—1st, INTERMITTENT,—*simple*, *inflammatory*, *malignant*. 2d, REMITTENT,—*simple*, *inflammatory*, *malignant*.

As regards the history and treatment of the simple and the inflammatory forms of intermittents, Dr. Drake's observations and experience correspond with the opinions and practice of the profession generally; his account of them is, therefore, brief: but in reference to the malignant form of intermittents, he very appropriately devotes a long chapter to its faithful investigation. This is the type of fever popularly denominated congestive, or malignant congestive, algid, soporose, etc.—a malady almost as much dreaded in the West as is the Asiatic cholera, which, in more respects than one, it closely simulates. Of its history and characteristics, our author remarks:—

> I need scarcely say that this variety of intermittents never constitutes an entire epidemic. It is mixed up with the other varieties; and, in most localities, the proportion which these cases really bear to to the others, is much smaller than is generally supposed, at least by the people. * * * The regions of the Valley most infested with the fevers of this order, as far as I am now prepared to state, are, *First*, The level portions of Alabama, Mississippi, and Louisiana, including the zone of estuaries around the Gulf: *Second*, The southern shore of Lake Michigan, from Chicago, round to the St. Joseph River, and of Lake St. Clair, and Lake Erie, from Lake Huron to Lake Ontario, near the estuaries of the creeks and rivers. The intervening region, and the country off to the west of Lake Michigan, are, however, not exempt; but the proportion of cases, with the exception of a few limited localities, is much less. * * * Relying on the answers to my questions, concerning the increase or decrease of this fever in the regions where it prevails most, I may say that in latter years it has been increasing, and that this increase appears to date from the visitation of the epidemic cholera in 1832–4. * * * That the cholera atmosphere may have had this effect must be admitted. It was very perceptible in the vicinity of Cincinnati for two or three years after that visitation; and the history of epidemics, in all countries and ages of the world, coincides with this alleged effect.

The following is a part of the vivid sketch that our author gives of the symptomatology of this class of intermittents. Of their varying and anomalous symptoms, he says:—

> Compared in the diversity of their phenomena with the most malignant cases of scarlatina, typhus gravior, or epidemic cholera, they are

decidedly more difficult to portray, in a methodical and faithful manner, than either, moreover, their malignity sometimes shows itself by the slightest possible anomaly. Thus, a partial numbness, or a coldness of the great toes, instead of a regular chill, or a disposition to sleep at the access of the paroxysm, may be all that suggests any thing more than the most harmless intermittent. * * * By far the greater number of cases begin as regular intermittents, with a cold fit too slight to excite more than a moderate shivering, such, for example, as ushers in a simple remittent. The cold stage is not followed, however, by the well-developed and prolonged hot stage of that variety of fever; but by one so inconsiderable, that the patient, in many cases, is soon upon his feet, and often resumes his business till the next day, or the day after that. If nothing should have been done, the second paroxysm will be more severe; his coldness will be greater and more prolonged, yet not productive of a shake. * * * The third, and even the fourth paroxysm may thus pass away; * * * but this is rare; and in the majority of cases, the third fit not only discloses the danger of the patient, but often proves fatal, or he struggles through it, to die in the next.

Concerning the best mode of treatment in this class of intermittents, Dr. Drake has extensively advised with those of his professional brethren in the South and West, who have become familiar with this malignant form of the fever, and it appears that with great uniformity, it is conceded that the timely administration of quinine in *large doses*, affords the only hope of the patient; that "hydragogue cathartics are regarded as inevitably fatal;" emetics have not proved salutary; blood-letting, and, in short, all modes of depletion are hazardous, and prove fatal unless they should, fortunately, be followed by reaction.

Remittents:—In the simple and inflammatory forms of remittent fever, Dr. Drake makes the following suggestions concerning treatment, etc.:—

The fundamental principles are, that Autumnal Fever is the product of a specific cause, and, therefore, consists in a morbid action of a peculiar kind, requiring a specific remedy; that we possess such an antidote for the intermittent variety of the fever, and that we have only to abate all the causes and points of difference between the two varieties, to render the sulphate of quinine as efficacious in one as the other.

But what *are* the pathological differences between them? The answer must be, that we do not find them in the functional disturbances and morbid secretions of the liver and *primæ viæ*, which are generally as great in the intermittent as the remittent type. They seem to me to consist in a higher febrile excitement of the whole system; a greater tendency to visceral hyperæmias and inflammations; a much longer hot stage; and the consequent want of a complete intermission. These conditions being obviated, the antidote will take effect, as in an ordinary intermittent. The old treatment, it is true, proposed all this; but the change in the condition of the system was to be accomplished gradually; and as each exacerbation of the Fever added to the lesions of innervation, or removed the inflammation of some organ, it oftened happened that a suitable condition for the administration of the antidote was never reached.

The new modification of treatment consists in transforming a remittent into an intermittent in a single day, and by a single agent. As stimulation will raise an intermittent into a remittent, so an opposite treatment may suddenly change the latter into the former; or, at least, so reduce the excitement of the heart and arteries, that the pathological state of the patient is an equivalent for the apyrexia of an intermittent.

Blood-letting is the means for accomplishing this end. To be successful, however, it must be employed in the first, second, or third paroxysm, that is, before inflammation in any organ has become established. The quantity taken must be such as will bring the patient to the verge of syncope. Pallor and perspiration of the face, yawning, nausea, and a feeble, empty, and rapid pulse, must declare that the excessive excitement of the system is, for the time being, effectually brought down. If these effects be not produced, the preparation of the system for the antiperiodic is not accomplished.

Dr. Drake's investigations, in reference to the treatment of remittents in the Southern States, show by reliable testimony that, in many localities, the quinine may be safely administered at the first onset of the fever, without any preparatory evacuating treatment; and he states that in a southern climate the lancet must be very cautiously used. As regards the use of *calomel*, our author believes that its merits have been overestimated: he would resort to it only as an adjuvant of secondary importance, even in cases of malignant remittents.

Dr. Drake devotes 169 pages to the consideration of Autumnal Fever, and this section of his treatise constitutes by far the most complete and practical exposition of the subject yet furnished to the profession. He remarks, that it is the *great* cause of mortality, or infirmity of constitution, especially in the southern portions of the Valley; it is therefore entitled to the extended and patient examination he has given it.

Yellow Fever.—To the consideration of this terrible scourge of our southern cities, Dr. Drake devotes 170 pages of his treatise; entering upon a very full investigation of the various questions relating to its etiology, pathology, and therapeutical treatment. The question of *contagion* receives, as it merits, a severely critical examination, the facts relating thereto in each epidemic being carefully analyzed, and the history of opinions on the subject faithfully scrutinized, and compared with established facts; though he scrupulously guards against any bias of opinion, and avoids any positive denial of the doctrine of contagion. Dr. Drake's investigations manifestly lead to the conclusion that Yellow Fever does not conform to the law of contagious fever, and that there is nothing in its history, so far as its occurrence in this country is concerned, which would require us to infer that it is ever contagious.

In reference to the symptomatology, morbid anatomy, and treatment of Yellow fever, the leading points are concisely stated, and his chapters on these subjects carefully adapted to practical purposes.

Typhous Fever.—Under this generic term Dr. Drake includes the several forms, or grades, of common continued fever; and, in the two hundred pages devoted to their consideration, the author has given us a very complete and highly practical treatise on this most important class of fevers.

In the section relating to a *general typhous epidemic constitution*, is given a succinct history of that constitution as it has prevailed in the United States, beginning with the memorable spotted fever of New England in 1806, '7, and '8; its modification, known as *pneumonia typhoides*, prevailing in 1810, '11, and '12, and following the march of the epidemic westward through subsequent years.

The history of sub-epidemic and sporadic visitations of the typhous fevers is given in three divisions, corresponding with the *southern basin Appalachian Mountain region; the southern basin; and the eastern, or St. Lawrence basin;* which are arranged in twenty-four sections, relating to the particular communities or regions in which such history has been specially studied.

The Irish immigrant, or ship, fever occupies a separate and lengthy chapter, in which the author particularly relates the results of his personal investigations in Canada.

Some of Dr. Drake's etiological generalizations are exceedingly interesting. We have only space for the following:—

Influence of the annual range of temperature.—We must now inquire into the influence of winter and summer extremes of temperature on the prevalence of continued fever. For this purpose we may use the following data, drawn from places which have nearly the same annual mean heat.

PLACES.	MEAN TEMP. OF YEAR.	OF WINTER.	OF SUMMER.	RANGE.
Cincinnati, Steubenville, and Lewiston	50°	31°	70°	39°
Paris, Vienna, and Berlin	50°	34°	65°	31°
Dublin, London, and Edinburgh	49°	39°	60°	21°

From this table it appears that the difference between the mean heat of winter and summer, in this valley, is equal to four-fifths of the mean temperature of the year; on the continent of Europe, to three-fifths; on the Islands of Great Britain and Ireland, to two-fifths; or, to vary the expression, the range from winter to summer is about twice as great in this valley as on those islands, while the continent of Europe holds a middle place between the two.

Now what is the comparative prevalence of the continued fevers in these different regions? The answer is not difficult. It is inversely to the range of winter and summer heat, being least in the Interior Valley, greater on the Islands, and intermediate on the continent of Europe. It is interesting to compare this climatic law of continued fever with those of yellow fever and autumnal fever. A mean summer temperature of 80°, or above, with a yearly temperature of 65°, or upwards, is necessary to the prevalence of yellow fever in our valley, and an average summer heat of 60°, or more, with a yearly heat of 40°, or upwards, is necessary to the production of autumnal fever. Thus, as a general law, yellow and autumnal fevers are in direct proportion to the heat of summer, while the continued fevers are in the reverse proportion. Yet there is one point of view under which they conform to the same law. They all prevail most where the range between winter and summer is least. Thus, at St. Louis, the range is 42°, and yellow fever is unknown. At Natchez, it is 29°, and the fever prevails occasionally; at Havana only 10°, and there the yellow fever is as constantly present as typhus fever in Dublin. In the latitude represented by Cincinnati, the range is 40°, and the prevalence of autumnal fever is moderate. In that represented by Bâton Rouge, the range is 28°, and the fever prevails every year as certainly as continued fever prevails in Glasgow or Edinburgh.

The various questions relating to the local, or spontaneous origin of typhous fevers, their propagation by contagion, their classification, morbid anatomy, pathology, and treatment, are ably discussed and philosophically investigated; and, particularly in reference to the subject of treatment, Dr. Drake has brought forward some ingenious and original suggestions which will prove highly valuable to the practitioner. We are especially pleased with his remarks concerning the *mode* and the *time* for resorting to the use of water, and the indications to be met in its application.

Concerning the relation of any special anatomical lesion to the general pathology, or distinctive classification of varieties of typhous fever, he concludes his argument in the following statement:—

It is well known that lesions in continued fever are not limited to the cavities which have been named, (the brain and abdomen), but are found likewise in the chest; and these are so frequent that, if we constitute as species the other forms, we might consistently establish a third—the thoracic or pulmonary. We should then have the cerebral or typhus mitior of the British writers—the abdominal typhus or typhoid affection of the French and German—and the pneumonia typhoides of the American. These designations are founded in nature and may be retained, but they should be understood to express only varieties and modifications of a single species. In certain countries or classes of people one variety may prevail for a time, in others, another—then, again, all may be present in the same town or family. Even the whole of these lesions are not unfrequently found in a single *post mortem* examination. The truth is, that we must admit a constitutional typhous diathesis, with varying localizations; and not specifically distinct, primary local inflammations, generating fever, as in the phlegmasiæ. If this be admitted, it follows as a corollary, that the labors of the Parisian school have simply made us acquainted with a form of typhous not peculiar to their city, nor even epidemic there, but sporadically present among them for some time past: not absolutely, but relatively to other forms, more prevalent in that city than elsewhere.

Eruptive Fevers.—These important but familiar maladies receive, at Dr. Drake's hands, the same thorough and practical examination as the more ostentatious members of the great family whose history he gives; and he has succeeded in presenting the leading points in their pathology and treatment in a striking and clear light His account of Scarlatina is especially interesting. As concerns the treatment of this malady, he bears most positive testimony in favor of the free use of cold water by affusion.

The history which our author gives of Epidemic Erysipelas, as it has prevailed in our country, constitutes the most complete epitome on the subject that we have met with. The terrific fatality which epidemics of this disease have so often assumed renders its history worthy of all the attention that has been bestowed upon it. Probably no epidemic malady has ever more completely baffled the skill of medical men in the localities where Erysipelas has prevailed;—in some, certainly, within the writer's knowledge, no disease has ever given occasion to so great opprobrium to the profession, because of the varying, and too often, unsuccessful treatment adopted by medical men at the outbreak of such epidemics. But, happily, in the hands of those physicians who have clearly apprehended the leading facts and principles relating to the pathology of the malady, and its therapeutical indications, epidemic erysipelas has not been found particularly incorrigible in treatment. Dr. Drake's conclusions concerning the proper mode of treatment, are entitled to great confidence, gleaned, as were his data, from many and various localities where epidemics of this disease had prevailed.

We need a fuller history of these epidemics, and it is desirable that those physicians who have had experience in treating such erysipelatous fevers should more fully and carefully communicate the results of their observations. The most valuable communications of this kind which we have met with, were made through this Journal, by H. N. Bennett, M. D., of Bridgeport, Ct. (*N. Y. Jour. Med.*, May, 1848, and July, 1853), in connection with the last of which may be found a bibliography of similar contributions.

In the last part of Dr. Drake's work, which is devoted to the consideration of Phlogistic Fevers, or the Phlegmasiæ, is presented a very complete *resumé* of all the leading facts relating to the etiology, pathology and therapeutic management of these most important inflammatory affections; together with an account of all the points of special interest connected with the endemic, epidemic, or particular local histories of any of the phlegmasiæ. Our author's method of arrangement and mode of discussion of these subjects are admirably adapted to the wants of those who would consult this treatise for immediately practical purposes; while he at the same time starts various physiological, pathological, and statistical inquiries, which his readers may profitably pursue. Of the diseases that receive a particularly full consideration, may be mentioned epidemic Cerebro-Spinal Meningitis, Acute Rheumatism, Pulmonary Inflammations,—including the various types and complications of pneumonia; and Phthisis Pulmonalis. Under the latter head, Dr. Drake has an interesting chapter on the climatic, etiological and prophylactic relations of this ruthless destroyer.

His account of Cerebro-Spinal Meningitis, as witnessed in its endemic or epidemic prevalence in the South and West, is highly satisfactory, and will be read with deep interest by those who have been called to treat this anomalous zymotic affection, which has its special seat in organs and tissues that are usually quite secure from any primary disease from meteoric agencies.

We must here close our examination of this greatest of American Medical works,—a work that, in the main, is as far above criticism as its lamented author exceeded all others in familiarity with the data upon which the treatise is based.

The task which Dr. Drake assigned to himself was as stupendous in the undertaking as it was glorious in its prospective results; and the entire profession, yea, the American nation, may properly express their gratitude that he was permitted so nearly to perfect his work. Indeed, the treatise, as now presented, may be justly considered as *complete*, so successfully have its worthy editors accomplished their duty of arranging and preparing for the press the manuscripts upon which Death found the learned author busily engaged. E. H.

Art. IX.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. VII. New York: Charles B. Norton, 1854. 8vo., pp. 668.

The early appearance of this volume is peculiarly gratifying; first, because we are a "fast people," and desire to see the early fruits of our labors; and, second, because of the circumstances under which the volume appears. Our readers are aware that heretofore the *Transactions* have issued from the Philadelphia press, and that they seldom appeared much within a year after the meeting of the Association. At the late meeting held in St. Louis, the Committee on Nominations selected a majority of the members of the publishing committee residing in New York. Motions to amend their report were strenuously urged, but finally lost, and the report of the committee adopted, which gave to New York the credit of issuing the *Transactions* of the present year.

To the manner in which the Publishing Committee have discharged their trust, we believe no exceptions can be taken. The volume has made its appearance in good season, and with a dispatch highly creditable to the efficiency of the committee. The typography is better than any previous volume, and its general appearance contrasts most favorably with the Philadelphia editions.

Of the contents of the volume we shall proceed briefly to speak. As a whole, it contains less matter of general interest than any of its predecessors. There are no voluntary communications, and a less number of reports on practical subjects than previously. Still, it is by no means a volume devoid of interest, and as one of a series of annual publications, holds an important position in the Series.

Following the Proceedings of the Seventh Annual Meeting of the Association, which have already been published in this Journal,* we have the :—

Report of the Committee on Medical Education.—This report was prepared by the Chairman of the Committee, Prof. Cabell, of the University of Virginia, who, it will be remembered, has stood prominent among the advocates of radical reform in our present system of medical education. The report is marked by much clearness of argument, and would have produced a profound impression upon the great sentiment of the Association, had it been read before that body in its assembled capacity. The following resolutions accompanied the report, and contain a summary of the principles embodied in it.

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* See *New York Jour. of Med.*, vol. xiii., N. S., p. 137.

1. *Resolved*, That the views and recommendations heretofore expressed by this Association, respecting the importance of establishing a uniform standard of preliminary education, of extending the term of lectures, and especially of greatly elevating the standard of professional attainments requisite to graduation, be hereby reaffirmed.

2. *Resolved*, That this Association approves and recommends the practice of daily examinations by each professor, as essential for securing "that active, practical discipline" of the mind, which is one of the most important ends of collegiate instruction; and believes, not only that such a system might be easily put into operation, under an appropriate term of lectures, but that the whole ground-work of elementary medical instruction might be most advantageously assigned to the schools which may adopt that system, as a substitute for the very faulty one of private office instruction now in common use.

3. *Resolved*, That this Association cordially approves of the establishment of "private schools," duly organized for giving that species of instruction, which consists "in demonstrations" and other practical exercises, on the part of the student instead of the instructor, but still under his direction and superintendence, embracing the whole circle of clinical observation and practice, the use of the microscope, chemical manipulations, and the performance of surgical operations on the dead body; and would earnestly recommend such institutions to the patronage of those graduates who did not enjoy similar advantages during the period of their collegiate pupilage.

4. *Resolved*, That those medical colleges whose curriculum does not now include full courses of lectures on physiology and medical jurisprudence, be earnestly invited to make immediate provision for supplying the deficiency, and to require the professor of physiology to make an exposition of the outlines of comparative anatomy, to such extent, at least, as may be necessary to enable the student to appreciate the force of the evidence upon which the modern doctrines of physiology mainly rest.

5. *Resolved*, That to insure the efficient and beneficial operation of the proposed measures of reform, the Association considers it essential that some uniform system of examining candidates for admission into the ranks of the medical profession, *in addition to the collegiate examination for degrees*, should be adopted in all the States of the Union.

6. *Resolved*, That the Association regards as auspicious omens of future progress, the already improved character of our medical literature, and the evidence of an increasing desire, on the part of a respectable number of students, for a higher grade of medical education, as exhibited in the patronage extended to extra collegiate organizations for practical teaching; and that in view of such encouraging signs, it cherishes an abiding conviction that more thorough and general reforms will be ultimately, though gradually, accomplished.

Report of the Committee on the Epidemics of Kentucky, and Tennessee. By W. L. Sutton, M. D., of Georgetown, Ky.

On Erysipelas. By R. S. Holmes, M. D., of St. Louis, Mo.

On the Medical and Toxicological Properties of the Cryptogamic Plants of the United States. By F. P. Porcher, M. D., of Charleston, S. C.

Report of the Epidemics of Ohio, Indiana and Michigan, for the years 1852 *and* 1853. By George Mendenhall, M. D.

Report on the Epidemics of Louisiana, Mississippi, Arkansaw, and Texas, in the year 1853. By E. D. Fenner, M. D., of New Orleans, La.

These papers are all characterized by much zeal and labor, on the part of those who were engaged in their preparation, and, while they will in a practical point of view interest the present reader, will prove of great value to future members of our profession. There is, however, one feature in the Reports on Epidemics, upon which we are constrained to make a few remarks.

A general defect exists in published meteorological records, as hitherto made for even the most specific purpose, in their want of comparable character among themselves. Those published in these reports have one advantage, however, in giving comparison of two years at each locality. If they were such that the temperature and humidity of New Orleans, Cincinnati, and Detroit could be compared with precision, and by observations similarly made, it is obvious that whatever light a definite knowledge of these conditions may throw on the epidemics of any year, could be brought at once to bear on the subject. The three gentlemen whose records are given at these cities, are among the most able and accurate of scientific observers, and the hope of future use of their labors in such precise comparison, induces us to make some suggestions as to the form of record and of publication.

Temperature, amount of rain, and humidity, are the conditions affecting the general sanitary state, and epidemics particularly, so far as climate is known to affect them. The mean results of a month's observation, as given in the tables at these cities, are also hardly sufficient for the purpose of such an investigation. An important extreme may be lost in the contrast with one of an opposite character in the course of the month, and its significance in relation to some feature of an epidemic may wholly fail to appear. It would require little more space to give the temperature of the dry and the wet thermometer at two hours of the day, as at sunrise, or 7 A.M. and 2 P.M., and the amount of rain for each day of the summer months; leaving the winter months to come in in the usual summary. The barometric and wind and weather observations have no value in this connection, though their mean results are sufficiently important, as scientific data, to repay their publication anywhere.*

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* The observation of the *temperature of evaporation* is so essential and indispensable to a meteorological record for purposes of sanitary investigations, that it may be well to allude to the following method published in a circular of the Smithsonian Institution, showing with what facility it may be taken :—A thermometer bulb covered with muslin, kept wet by a conducting thread of wicking from a cup of water, is all that is necessary—all to be placed in a free shaded exposure as of the dry thermometer. No loss of time then occurs in its observation, and it is only necessary to renew the muslin and thread when encrusted with dust, and to keep water in the supply vessel. The instrument, once arranged, adds no labor of consequence to the common thermometric record.

The observations given in these reports, fail most in regard to amount of rain, and hygrometric observation. Those of Mr. Gronewig, of Germantown, Ohio, are obviously incorrect, as regards quantity of rain, as both the years 1851 and 1852 had more than the usual amount in Ohio, and the West generally. This quantity exceeded fifty inches in vertical depth of water fallen in each year for Southern Ohio. His gauge was evidently defective. The valuable hygrometric observations made here need only the use of English measures, and the actual record of the readings of the wet thermometer to make them extremely serviceable. At Cincinnati, Dr. Ray's observations unfortunately fail to embrace this primarily important condition of humidity, as do those of Mr. Long, at Georgetown, Ky., and Rev. Dr. Duffield, at Detroit. If inconvenient to these gentlemen to observe this instrument, there are others in various parts of this epidemic district who do so observe, and who would doubtless gladly furnish their results for the use of these reports.

The same, in regard to facility of procuring observations, may now be said of every portion of the United States, indeed, and it is only necessary for the authorities charged with the preparation of reviews of epidemics, and epidemic influences, to put themselves in connection with such meteorological observers, to obtain all the data necessary for a comparison, almost, or quite universal over the country in every year.

The deduction of humidity, in a definite per centage of saturation, from the observation of the wet bulb thermometer, is a somewhat difficult process in the absence of any English tables for the purpose. But the readings of the two instruments, the wet and dry bulbs, exhibit in their differences a palpable and obvious result in regard to humidity, which may be used almost as well as the final deduced values.

The illustration of these climatological conditions is very well made by Mr. Gronewig, in his communication in the report for Ohio. The use of the common or English measures should have been adhered to, however; and a connected or accompanying illustration of the statistics of epidemics, after the model of those of Dr. Barton of New Orleans, would at least greatly facilitate the inquiry into their mutual relations.

In the illustration of the amount of rain at Germantown, Ohio, the error of the tables is in part corrected; the amount being brought up to thirty inches or more for each year. This is still much too small.

To illustrate the importance of connecting the humidity with other conditions, and of placing all that is pertinent to the subject together in illustration, the curves of temperature and humidity for the epidemic summer of 1853 may be cited. As drawn by Mr. Gronewig, the temperature, of June particularly, is very high, and its per centage of humidity very low. This was true for every part of the Upper Mississippi valley, as well as for Ohio. By Dr. Barton's tables the reverse condition in regard to humidity is seen to have existed at New Orleans, without, however, any important extreme of temperature. The relative severity of epidemics at New Orleans and at Cincinnati during that summer may have a solution here. It is understood that Dr. Barton has in press a report of especial examinations of the Yellow Fever Epidemic, which may throw light on the point.

The number of able physicians* and others, now giving attention to precise climatological records, especially in the Mississippi Valley, is such that concert of action alone is necessary to give to these epidemic reports all the light derivable from that source. By giving the statistics such definite form as applies distinctively to this subject, they may be extended in the form of detail, previously alluded to, for such months as are shown to be important at the time in any district, without encumbering the tables with unnecessary matter.

From an extended inquiry, we learn that the names given below are part only of the members of the medical profession and others now engaged in valuable and precise observation of this sort in that part of the United States. A number of professors and scientific gentlemen might be named in the same districts who would, on solicitation, add the results of their labors, as in the case of Mr. Gronewig, Dr. Duffield, and others, in the present reports. The field is an inviting and attractive one, of more general interest also than that belonging to medical practice merely, and as such scientific gentlemen would no doubt gladly give their observations into the hands of the medical profession, whenever and wherever they will take up this important inquiry and enter upon discussion and deduction.*

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* As the subject is important, and the labor already given in this direction so considerable, it may not be improper to give the names of a few known to be aiding the general science of climatology, and this sanitary branch particularly, by valuable observations. The reports here noticed are all in the Mississippi Valley, and, therefore, only such as are resident there need now be named:

Drs. S. K. Jennings, Austin, Texas; E. H. Barton, New Orleans; John Swain, Ballardsville, Oldham Co., Ky.; Geo. Engelmann, St. Louis; John James, Alton, Ills.; Asa How, Dubuque, Iowa; E. C. Bidwell, Quasquita, Buchanan Co., Iowa; C. L. Anderson, St. Anthony's Falls, Minnesota; J. L. Pickard, Platteville, Grant Co., Wis.; M. K. Taylor, Brooklyn, Jackson Co., Mich.; S. B. Mead, Augusta, Ills.; Ray, Cincinnati; S. P. Hildreth, Marietta, Ohio; J. P. Kirtland, Cleveland, Ohio; Geo. Swesay, Gallipolis, Ohio; Hempstead, Portsmouth, Ohio; S. Patrick, Kanawha C. H., Kanawha Co., Va.; W. A. McNellay, Fayetteville, Tennessee; J. O. Harris, Ottawa, La Salle Co., Ills.; Patton, Lewisburg, Virginia; F. Ryhiner, Highland, Madison Co., Ills.; Prof. J. B. Lindsley, M. D., Nashville, Tennessee; Prof. A. P. Stewart, Lebanon, Tenn.; W. M. Stewart, Esq., Glenwood, near Clarksville, Tenn.; Rev. J. Miller, M. D., Millersburgh, Kentucky; Lawrence Young, Esq., Springdale, near Louisville, Ky.; J. E. Younglove, Esq., Bowling Green, Ky.; Jno. Chappellsmith, Esq., New Harmony, Indiana, (successor to Dr. D. D. Owen); Prof. J. L. Andrews, Marietta, Ohio; Prof. S. N. Sanford, Granville, Ohio; Rev. J. McD. Matthews, Hillsborough, Ohio; J. A. Lapham, Esq., Milwaukie, Wis.; Profs. Fairchild, Dascomb, and others, Oberlin, Ohio; Prof. A. W. Winchell, M. D., Ann Arbor, Michigan, etc., etc.

Prize Essay: On a New Method of Treating Ununited Fractures and Certain Deformities.—The successful essayist this year proved to be David Brainard, M. D., Prof. of Surg. in Rush Medical College; Surgeon of the Illinois General Hospital, at Chicago; Corresponding Member of the Société de Chirurgie of Paris, etc., etc.

Before proceeding to an analysis of this Essay, we deem it necessary to advert to one circumstance connected with its history, which, though it does not detract from the merit of the investigations embodied within it, we can but regard as reflecting discredit upon the Association that bestowed upon it the annual prize. We have before us a pamphlet bearing the following title:—*Mémoire sur le Traitement des Fractures non Réunies et des Difformités des Os, par* David Brainard, M. D., Professeur de Chirurgie au College Médical de l'Illinois, à Chicago, etc., Paris, 1854, and dedicated to M. Le Baron Larrey. This pamphlet, of which our Prize Essay is but a translation, was originally presented to the Society of Surgery, of Paris, by the author, and on the strength of which, we believe, he was elected a Corresponding Member of the Society. In the early part of the year 1854, it was published in Paris, under the imprint of J. B.

It may be worth while to state, that the mode of determining mean results in temperature, alluded to in the report for Kentucky and Tennessee as having been employed by Mr. Long, is preferable to that of Dr. Ray, which last is understood to be the mode adopted some years since by the Regents of the New York University. The defect of this mode is, that it introduces an observation of the morning following. The formula is, $X = \frac{a + 2b. + 2c. + a'}{6}$; in which a, b, and c are the hours 7, 2, and 9 respectively, and a' is 7 o'clock of the next morning; and similarly for any three hours near these which may be chosen for observation. The mean of two extreme hours is shown by recent observation to represent more truly the precise mean of all the hours of any day, and this is the value desired in daily statistics.

Baillière, in its present form, and, as it would appear, previously to its being submitted to the American Medical Association. The precedent established by this procedure, if followed out in future, resolves the Prize Committee of the Association into a committee of judges on recent publications—thus perverting the important object contemplated in the appointment of the committee.

This double triumph of his Essay must be peculiarly gratifying to the author, as evincing a wide appreciation of his talents and investigations. Yet we can but feel that, in submitting it, under the injunction of secrecy, after its foreign circulation, to the *American Medical Association* for its annual prize, he has not had sufficient regard for its *national* character and reputation. Representing in its Annual Transactions the progress of American Medicine, it but illy subserves this high purpose, when its prizes are awarded to essays already deferentially submitted to the criticisms of foreign societies, and which take the honor, if honor there be, in first publishing them to the world.

The object of this Essay is thus stated: 1st. To establish, by experiment, the principles upon which the treatment of ununited fractures should be conducted; and to show that these principles are applicable to the human subject. 2d. To propose a new method of treatment of certain deformities which result from true anchylosis,—union of fractures in an angular position, rachitic curvature, etc. It is divided into three parts:—1. Experimental researches on the effects of foreign bodies, when allowed to remain in contact with the osseous tissue, and on certain wounds of the bones. 2. Treatment of ununited fractures by subcutaneous perforation of bone. Cases treated in this manner. 3. Treatment of deformities of the bones by subcutaneous perforation. Experiments on this subject.

The author very properly disclaims all pretension to have been the first to devote attention to treatment of a similar kind. He, however, claims by implication to have first demonstrated the principles upon which such treatment is based, laid down the rules of its application, and contrived an instrument by which it could be carried into effect. These several points will appear in the brief analysis of his paper which we shall give.

The first fact to determine is, the effect of foreign bodies when allowed to remain in contact with bone. Foreign bodies are divided into metallic, and non-metallic, and the following are the conclusions at which the author arrives, after experimenting with various substances belonging to both classes:—

1. Foreign bodies, of every kind, placed, or allowed to remain in

contact with any part of a bone, in a manner to keep up suppuration, produce absorption of it, and have no tendency whatever to give rise to the production of callus. The use of setons, pegs, wires, and foreign bodies of every description, as a means of promoting the formation of callus, is a practice not founded on correct principles, and is often dangerous. The seton is more properly employed for the purpose of dividing a bone, or keeping up a false articulation, than for uniting it.

2. Sequestra and foreign bodies, imbedded in bone, may be brought to the surface when, by perforation or otherwise, instruments or ligatures can be so attached to them as to draw them permanently, with but a moderate degree of force, in that direction. As soon as they press against the living bone, they cause its absorption in the direction toward which they are drawn.

3. That power of absorption of bony tissue attributed to the periosteum and the medullary membrane, exists also in the substance of the bone itself, as is proved by the insertion of pegs into perforations of bone, absorption taking place around them, not only at the surfaces, but at all the intervening points.

The next subject of inquiry is the *effects of foreign bodies on the formation of callus.* The examples cited to illustrate this point, are cases of fracture of the bone, and the detachment of fragments which lie between the extremities, and have prevented union; and the conclusion arrived at in connection with the preceding facts is, that "foreign bodies produce absorption of callus when placed in contact with it." The action of medicinal solutions, when placed in contact with bones, was found to be similar to that of foreign bodies.

The circumstances in which wounds of bone most readily give rise to callus, or unite without it, are considered under the following heads: 1. Simple wounds of bone without fracture. 2. Simple fracture. 3. Compound wounds, and compound fractures. Nothing new is offered in the discussion which follows; in the first two conditions, bone heals by the first intention, in the last by granulation and suppuration.

Having thus established and illustrated the principles of his investigation, the author proceeds to apply them to the treatment of ununited fractures. The following are his views of the indications of treatment in this class of affections:

> The object to be desired in these cases is, as it appears to me, the production, by subcutaneous wound, of fresh osseous surfaces opposite to and in contact with each other, with such division of the soft parts as will excite a moderate inflammation, without suppuration, around the false joint; and a wound of the bones, of considerable depth and size, capable of producing that vascularity and softening always noticed in fractured extremities of bones, before union takes place. These fresh surfaces, in some cases, require to be numerous, and equal in the aggregate to those produced by resection; and the

operation by which they are made should be repeated from time to time. Hence, it must be an operation which does not expose to violent inflammation, or give great pain. It should, moreover, be one capable of being employed in connection with other methods, recognized as useful or necessary to preserve immobility.

To accomplish these objects, Prof. Brainard has invented an instrument, for perforating the fractured extremities subcutaneously, which is awl-shaped, and capable of penetrating the hardest bone or ivory with facility. The method of operating is thus described:—

In case of an oblique fracture, or one with overlapping, the skin is perforated with the instrument, at such a point as to enable it to be carried through the ends of the fragments, to wound their surfaces and transfix whatever tissue may be placed between them. After having transfixed them in one direction, it is withdrawn from the bone, but not from the skin, its direction changed, and another perforation made; and this operation is repeated as often as may be desired. It is better to commence, in most cases, with not more than two or three perforations, in order that the effect produced shall not be too severe. On withdrawing the instrument, collodion is to be placed upon the point of puncture. * * * In case of fracture where the extremities are differently situated, it must be applied in a different manner, and in such a way as to effect the object proposed, viz.: profound as well as superficial wounds of the extremity of the fragments; and a division of the tissue which is seated between them. * * * Each of the different parts of the operation which we have described is essential to its success. The division of the tissue situated between the fragments, would, of itself, have but little effect; combined with scratching their extremities, its effect is not great, as we have demonstrated by experiment; but when accompanied by wounds of the bone, there is a very permanent and efficient action produced, which puts the extremities in a condition to join the soft parts, in effecting union. This can be rendered greater, by increasing the number of punctures, or using an instrument of large size. The operation is to be followed by the application of suitable splints, or apparatus for the purpose of securing immobility. It should be repeated from time to time, and carried to a greater or less extent, as the effects produced may indicate.

Seven cases, in which this practice was successfully resorted to, are appended; three only occurred in the practice of the author, two are reported by Prof. Mussey, of Cincinnati, and two by Dr. Jewett of this State.

The concluding chapter of this essay is on the *Application of Perforation of the Bones to the Cure of Certain Deformities, by means of Interstitial Fracture or Bending.* The facts which his experiments establish are: 1. Perforation of bone may be employed to weaken it in such a manner as to cause it to fracture readily, at the point desired, with but a moderate degree of force, and but little pain. 2. It may be employed in the same manner, so that the bone may be bent in part, and only fracture in some of its fibres, without division of the periosteum. The cases to which this treatment is adapted are: anchylosis, angularity of the fragments in fracture, deformities from rachitis, etc. The method of applying the treatment depends upon the object to be attained. If it is to weaken the bone to facilitate fracture, several perforations may be made in one direction, and, withdrawing the instrument, they may be repeated in another, five perforations being sufficient to divide about two-thirds of the bone (the instrument being of suitable size), and the inflammation excited will soften the other third in a few days, and render the fracture easy. If it is desired to effect a partial fracture, the perforation should be mostly on one side; if to bend the bone merely, the perforation should be from three different points, and the gradual application of force applied.

From this brief analysis, it will be perceived that the chief merit of the Essay consists in illustrating by experiments certain facts in surgical pathology and practice, hitherto known. For it has long been understood that the effect of foreign bodies, when left in contact with bone, was destructive of its tissue at the point of contact. Proceeding upon this knowledge, bone has been purposely divided by a wire placed around it, and tightened at proper intervals; the principle of its action being simply that of exciting suppurative inflammation. It is on this principle that foreign bodies have been removed from bones, sequestra from the living bone around them, etc.

In discussing the various kinds of treatment heretofore adopted in ununited fractures, the author's accuracy and logic do not impress us very favorably. He supposes the object of Dr. Physick, in using the seton, was, "to produce between the fragments that semi-cartilaginous tissue often noticed as forming the walls of old fistulæ," and does not perceive "why the recommendation of the seton for this purpose, for a long time, should be more an absurdity than its use for a few days, for the purpose of producing an acute inflammation of the soft parts." Dr. Physick, however, supposed that, "by exciting inflammation and suppuration, granulations should rise on the ends of the bone, which, uniting and afterwards ossifying, would form the bony union that was wanting." It is plain, therefore, that the length of time which the seton should remain between the fragments cannot be specified. Presuming that the success of the seton in certain cases might be urged by some, as invalidating the principles which he has endeavored to establish, Prof. Brainard anticipates the objection with the following reply: "The success of the seton, as well as of all similar methods, does not result from any tendency to favor the formation of callus, but from the induration of the soft parts produced by it." And yet, on a preceding page, he notices the following fact in regard to Dr. Physick's case: "At the death of the patient, several years afterwards, a callus was found, divided into two parts by a perforation in the middle, which marked the point where the seton had been placed." It is perfectly clear that the callus was formed in this case in consequence of the *presence* of the seton.

In regard to the method of treatment proposed by Prof. Brainard, we recollect to have seen a patient successfully treated in a similar manner by Dr. Detmold, of this city, in 1850. It was supposed by this surgeon, if we rightly recollect the remarks which he made on the occasion, that the " chips " made by the perforator would become the centres of ossification, and that in this manner osseous pins might be formed, retaining the bones in apposition until consolidation was complete. The cases reported by Professor Brainard are too few to judge correctly of the importance of the operation. It commends itself from its apparent simplicity, freedom from pain, (which, indeed, is no great objection in our day), and, thus far, its successful issue, in the cases to which it has been applied.

The concluding paper contains biographical sketches of the sufferers by the Norwalk tragedy. It was drawn up by the Chairman of the Committee, Dr. JOSEPH M. SMITH, and is a most appropriate tribute to the memory of those unfortunate men.

BIBLIOGRAPHICAL NOTICES.

ART. X.—*The Microscopic Anatomy of the Human Body in Health and Disease. Illustrated with numerous Drawings in Color.* By ARTHUR HILL HASSALL, M. B., Member of the Royal College of Surgeons of England, etc., etc. With Additions to the Text, and Plates, and an Introduction, containing Instructions in Microscopic Manipulations, by HENRY VAN ARSDALE, M. D. In two volumes. New York: Samuel S. and William Wood, 1854. 8vo., pp. 560 and 169.

SOME three years since, we had occasion to notice the appearance of Mr. Hassall's work on Microscopic Anatomy, republished in this country. We now have the pleasure of calling the attention of our readers again to this standard treatise, brought out under the auspices of the Messrs. Wood of this city.

It will be remembered that the American edition was edited by Dr. Van Arsdale, of this city, who prefaced the first volume with a very instructive and necessary section on the use of the microscope, and on the best methods of preparing and preserving microscopical objects. The student cannot fail to profit much by an attentive perusal of this introduction, both in manipulating with the instrument, and in correctly understanding the principles of this beautiful science. We notice on the second page of Dr. Van Arsdale's introduction, a piece of advice which students would do well to heed. "It is a very common error," says the editor, "to suppose that cheap microscopes will answer as well for low powers as more expensive ones: that, for instance, there is no difference in a one-inch object glass and common eye-piece of an ordinary microscope, and the same focus object-glass and eye-piece of a good instrument: hence, many persons, about commencing the study of microscopic anatomy, and believing that, for the study of injected preparations, a power of one hundred diameters will, in most cases, answer, purchase the cheapest instrument they can obtain with that degree of magnifying power—qualities that are rarely found to exist in any degree in the cheaper microscope."

Not less important to the student is the following: "An error, somewhat similar, committed by beginners, is in supposing that a low-priced microscope (and usually, therefore, a poor one), is sufficiently good to commence with, and that a more perfect instrument, with higher powers, may be purchased when more familiar with its use. This is not only poor economy, but, as already stated, such an instrument gives unsatisfactory, and often false views: it being much better economy were this regarded, and infinitely more satisfactory, to purchase a good instrument, with low powers, at a fair price, to which the higher powers may be added as means allow. Those who can afford a good microscope, and yet purchase a poor one, commence their studies under great disadvantages."

The additions of the editor, throughout the entire volume, are of great value, and greatly facilitate the progress of the learner. At the conclusion of each subject, he gives the best method of preparing the tissue, or fluid, under consideration, for examination, and also for preservation. With these plain and explicit instructions before him, the observer is prepared to master every difficulty which may present in the manipulation of the instrument, and in the preparation of the specimen.

The second volume consists entirely of plates, of large size, beautifully and accurately colored. The American edition contains a large number of additional plates, highly artistic in their execution, and supplying important omissions in the English edition.

We regard the appearance of this work, emanating from the present publishers, at a period when medical students are so generally turning their attention to microscopical studies, as a fortunate circumstance.

In conclusion, we would express the conviction, forced upon us after several years' consultation of similar works, while pursuing microscopical studies, that there is none better arranged and illustrated, and none which will give so general satisfaction as that of Mr. Hassall, edited by Dr. Van Arsdale.

Art. XI.—*On the Nature, Signs, and Treatment of Childbed Fevers; in a Series of letters addressed to the Students of his class.* By Charles D. Meigs, M. D., Prof. of Midwifery and the Diseases of Women and Children in Jefferson Medical College, Philadelphia, etc., etc. Philadelphia: Blanchard & Lea, 1854, 8vo. pp. 362.

This volume comprises a series of twenty-nine letters, on one of the most difficult, and in some respects interesting points in Obstetric Medicine. For if there is one disease which more than another has demanded, and received, investigation at the hand of the practitioner of our art, it is that commonly recognized under the name of Childbed Fever. That all investigations should prove alike successful is not to be supposed. In the present one we find that the author, a practitioner of more than forty years, has collected the best and most reliable opinions of many writers on this disease, and applying to them the test of clinical experience has produced a volume superior, in many respects, to any which has heretofore come from his pen. As to the style of the letters, we see manifested in them no marked evidence of improvement, compared with that characterizing the author's volume, *On Woman and her Diseases.* It is clearly of the same class of writing—writings which, we may say, are peculiar to the distinguished author, now passed the period of three-score years in life. As the results of a critical inquiry into the literature of the disease, and a large and long experience in practice, this volume will be received by the Profession with distinguished favor, and we feel warranted in commending it to the favorable attention of our readers.

Art. XII.—*A Treatise on Fractures in the Vicinity of Joints, and on certain forms of Accidental and Congenital Dislocations.* By Robert W. Smith, M. D., M. R. I. A., Fellow of the Royal College of Surgeons of Ireland, etc., etc. Dublin: Hodges & Smith; New York: S. S. & W. Wood, 1854, 8vo. pp. 314.

We regard this as the best work extant, on the subject of Fractures in the Vicinity of Joints. Its discusses intelligibly and practically some of the most troublesome points in Surgical practice—obscure and complicated points in the management of accidents affecting the articulations. We most heartily commend it to the better consideration of the Profession.

Art. XIII.—*Nature in Disease, illustrated in various Discourses and Essays. To which are added Miscellaneous Writings, chiefly on Medical subjects.* By Jacob Bigelow, M. D., Professor of Materia Medica in Harvard University, etc., etc. Boston: Ticknor & Fields, 1854, 12mo. pp. 391.

This volume comprises, as its title indicates, a collection of Miscellaneous Papers, principally on Medical subjects, written or published at intervals, by Dr. Bigelow, during a long and active professional life. The following is a list of its contents: 1*st*, *On Self-limited Diseases;* 2*d*, *On the Treatment of Diseases;* 3*d*, *Practical Views on Medical Education;* 4*th*, *Report on Homœopathy;* 5*th*, *On the Medical Profession and Quackery;* 6*th*, *On Gout, and its Treatment;* 7*th*, *On the Treatment of Injuries occasioned by Fire and heated Substances;* 8*th*, *On the Burial of the Dead, and the Cemetery at Mt. Auburn;* 9*th*, *Remarks and Experiments on Pneumothorax;* 10*th*, *On the Pharmacopœia of the U. S.;* 11*th*, *On the Mucuna Pruriens, with Remarks on the Irritability of Different Textures;* 12*th*, *On the Poisonous Effects of the American Partridge;* 13*th*, *On Coffee and Tea, and their Medicinal Effects;* 14*th*, *Report on the Action of Cochituate Water on Lead Pipes, etc.;* 15*th*, *On the History and Use of Tobacco;* 16*th*, *On the Early History of Medicine;* 17*th*, *An Address delivered before the American Academy of Arts and Sciences in* 1852.

Art. XIV.—*Human Physiology; designed for Colleges, and the higher Classes in Schools, and for General Reading.* By Worthington Hooker, M. D., Prof. of Theory and Practice of Medicine in Yale College, etc. Illustrated by nearly 200 engravings. New York: Farmer, Brace & Co., 1854, 12mo. pp. 389.

A careful examination of this work has left upon our mind favorable impressions of its value, and adaptation to supply the wants of those for whom it was designed. We therefore commend it to the favorable attention of the public.

Art. XV.—*A Dictionary of Medical Terminology, Dental Surgery, and the Collateral Sciences.* By Chapin A. Harris, M. D., D. D. S., Professor of the Principles of Dental Surgery in the Baltimore College, etc., etc. Second Edition, carefully revised and enlarged. Philadelphia: Lindsay & Blakiston, 1855, 8vo. pp. 800.

The first edition of this work was designed principally for the student and practitioner of Dentistry. Subsequent reflection has convinced the author, rightly we think, that the scope of professional education of the Dentist required a more extended view of the subject than was presented in that edition; consequently, in the present, he has added those words and phrases purposely omitted in the first, and also those that have subsequently been added to the literature of the subjects, thus making the work a complete Dictionary of Medicine and Dental Surgery. As there is no work extant so well adapted to supply the wants of the student and practitioner of Dentistry, we feel assured that it will be received by them with distinguished favor.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Nature and Causes of Green Vomiting.—DR. FRAZER details (*Dub. Hospl. Gaz.*) several cases of Green Vomiting, and adds the following remarks:—I consider this green matter is composed of the blood in an altered and modified condition, the discharge being altogether of a hæmorrhagic character. Repeated microscopic observation, in those instances in which I have noticed its occurrence for some time past, has confirmed my ideas regarding its nature, and examination shows that the little fragments of which it consists are various-sized clots, containing abundance of blood globules: this alone might decide the inquiry; however, I am desirous of placing it on other grounds, in addition to such as are afforded by the microscope. I may, therefore, bring forward the following arguments which further support the view I have taken. 1st. The form of vomiting alluded to occurs in diseases where there is much congestion, and inflammatory engorgement of the vessels of the stomach or intestines, as in gastritis, and fevers with gastric complications; and after death we find patches of softening in the mucous membrane, or decided marks of excessive vascularity; at least such has been the case in those fatal instances where I have had the opportunity of inspecting the stomach. 2dly. The coincidence of vomiting of ordinary blood, in addition to the green matter, which sometimes occurs, and as was noticed, for example, in the case of the woman with enlarged spleen already alluded to; besides, I have remarked, that in many cases of fever which were attended with this peculiar green discharge, hæmorrhagic purpuric eruptions were frequently seen. 3dly. We have the physical properties of this substance; it forms small green clots in the fluid, in addition to tinging it with its peculiar hue, as we might expect blood to do. 4thly. We must consider that a similar green color occurs in various parts of the body, and under very dissimilar circumstances. This is, perhaps, the most interesting branch of our subject, and one on which medical records afford little information; as instances of this change we have, among other examples: The peculiar green hue of contusions that are of some standing, and the green color of the ecchymoses that occur on the extremities in land scurvy, many cases of which were noticed in the hospitals in the late years of famine.—The color of the great intestine in various cases of fatal dysentery, and of the mucous tissue of the stomach in inflammatory gastric affections.—The grass-green appearance of the interior of the bladder, and of the kidneys after death, in many acute or sub-acute diseases.—The well-known greenish tinge often seen in moist gangrenous affections.—The color of the body as it begins to decay after death.—The green hue of coagulable lymph, and of purulent exudations in bad constitutions, and many other similar facts in pathology that might be enumerated, which are as yet unexplained.

On Physical Diagnosis of Fevers. By E. A. Parkes, M. B.—There are two diseases not unlike typhoid, to which I wish now to direct your attention, and which may be mistaken, and are mistaken for typhoid—one is *pyæmia*, so called, but it is quite untrue there is any pus in the blood; the other is *acute tuberculosis.* In pyæmia we have its positive indications absent, such as inflamed joints, diseased veins, etc.; we have septic materials in the blood in pyæmia, and a vital change perhaps in that fluid, but you cannot well mistake it for typhoid fever. There is another disease, however, which has been lately quite mistaken for typhoid—this is *acute tuberculosis*, in which, more or less, every organ in the body becomes studded with tubercles, and known in England and the Continent as "miliary tubercles," in the intestines, heart, lungs, and in the female even in the uterus and pelvic viscera. It is a disease common in younger patients. The disease, however, is extremely rapid, in three or four weeks usually coming to an end. It is attended with febrile symptoms, furred dry tongue; the symptoms, in fact, all like as possible of typhoid. It runs parallel, so to speak, with typhoid, but is not typhoid. Acute tuberculosis is often mistaken for typhoid, but the *rose-spots are absent.* In these cases the best observers will make mistakes. These tubercular deposits are miliary; they are uniform over the lung. We have no opportunity of comparing disease in one part of the lung with another; no stethoscopic indications, in fact, but those of bronchitis. Again, in this disease of acute tuberculosis, the head symptoms are always most intense, from deposit, in the shape of acute meningitis; the latter produced by deposit of tubercle. It is, in fact, something quite out of the common way to find bad headache in typhoid; torpor is more common; and according as the disease advances, as a general rule, head symptoms are found to go away. You will find, also, if you study these cases in the wards of the hospital for yourself, that the pupils are dilated in meningitis, and that the special senses of hearing, taste, smell, etc., are all more or less affected. Deafness, for instance, is common; and, as I have just said, you will have most intense headache. Again, in one disease the abdominal symptoms will sieze your attention; in the other, the head or chest symptoms. Diarrhœa is not so frequent in one; while in the other it is almost specific. In acute tuberculosis, you will not find the intestinal glands red and inflamed; in the other affection we are speaking of, it is very characteristic after death. The typhoid stools are liquid, yellow, or brown, containing albumen, and coloring matter of bile; this singular substance rendered mahogany-color by nitric acid. In hospital I would advise you to familiarize yourselves with all these circumstances.

To sum up the whole matter, then, you will find that in these two diseases, confounded by superficial observers, we have a prominence, at the bedside, of head symptoms in one, and abdominal symptoms in the other. We have symptoms also of pyrexia in one. We may have "typhoid pneumonia," using these words now in a different sense, "typhoid" as an adjective; with all the other differential signs already indicated. Then bad influenza, with capillary bronchitis, may also be mistaken for one of these diseases, purulent meningitis and a disease lately described in Ireland "cerebro-spinal meningitis."—*Dublin Med. Press.*

Death from Chloroform.—The following remarks we take from the *Medical Circular:*—Several operations were performed at the hospital last Wednesday, but after we had left, not expecting any thing of greater moment, a poor man was admitted with bad retention of urine. Great difficulty was found in passing the instrument, till it was at last arranged to try again under the effect of chloroform; the man was scarcely brought under its full action when he began to snore as if something was wrong; his face became suffused and red, the inspirations very seriously embarrassed. Attention was at once riveted on these signs of impending danger, and cold water was freely dashed over the face and chest, the root of the tongue was drawn forward and artificial respiration tried; some signs of reaction set in, but they were only of temporary duration. Galvanism was tried, but all was of no avail, the man was dead.

At the post-mortem, as we had almost anticipated, having seen the disease now so often, as described by Dr. Quain, there was a large, soft, and remarkably flabby heart; on examination under the microscope, every fibre in the left ventricle appeared to be undergoing fatty degeneration; the lungs were also congested; the poor man was only 29 years old, but appeared almost double that age. It appears rather too clear, that where such disease exists, as we said on a former occasion, there is very great risk in exhibiting chloroform. Mr. Erichsen, who used the utmost skill, and had recourse to every possible mode of resuscitation in the case, made some able references to the subject this week. We do not believe such cases will lead to a discontinuance of chloroform, but rather to more caution, and in minor operations a substitution of ice, as recommended by Dr. Arnott.

Fatal Asphyxia from Impaction of a Detached Bronchial Gland in the Larynx.—At the Royal Medical and Chirurgical Society (May 9th), Mr. George Edwards, of Wolverhampton, detailed the following interesting case, which occurred in a child of eight years of age, who, while at play, was suddenly seized with symptoms as of a fit. He was quickly carried home, and became violently convulsed, although retaining consciousness and the power of utterance; the countenance became extremely anxious, and he uttered the expression that he should die. In the hurry of the moment there was no opportunity of getting any distinct knowledge of the previous history, beyond the surmise that the boy has swallowed something. The trachea was immediately opened, a little air issued from the opening, artificial respiration was attempted, but without effect, as the child gave but two gasps after the operation, and died. The post-mortem examination revealed the presence of a foreign body touching the under surface of the epiglottis, and extending through the rima glottidis into the larynx; the substance was whitish, and covered with mucus; on a very slight examination, it was evident that the body was a bronchial gland. Upon slitting open the trachea, the spot from whence the gland had issued was soon observed; it was on the posterior part of the right side, just above the bronchial bifurcation; the opening was ragged and irregular, and communicated with a cavity behind, sufficiently large to contain a nutmeg. No other evidence of disease was observed.—*Dublin Hosp. Gazette.*

Chloride of Zinc as a Caustic.—In many cases it is of great importance, in the use of choloride of zinc as a caustic, that it should not run. Such a one is at present under the care of Mr. Cock, of Guy's Hospital, in which it is being used to destroy a polypoid growth of the nose, part of which has been extracted. A paste made with flour was first tried, but this was inconveniently moist, and liable to run. Mr. Cock now uses plaster of Paris, which answers admirably. The paste may be made of suitable consistence, and it does not afterwards become in any degree more liquid. The duration of the pain, after its use in this way, is generally much less than if it be used in a paste more liable to liquefy.—*Medical Times and Gazette.*

Simulated or "Phantom" Tumors.—To state them *seriatim*, we have the following, as the chief conditions on which these variable tumors may depend:—1. Distention of the bladder. 2. Solid fæcal accumulations. 3. Irregular contractions of the intestine at two points, and distention of the intervening portion with flatus or with fluid fæces. 4. Spasmodic rigidity of a part of the abdominal parietes. It may, perhaps, seem almost superfluous to add the last, but practically, it is one of the most frequent sources of deception. An hysterical patient is quite capable of making a circumscribed portion of the abdominal wall rigid and hard, while the rest remains comparatively flaccid; and even in a person of calm, nervous system, the same condition may be produced by an instinctive reflex act, for the protection of a part of the belly which is tender on pressure. The recti muscles are peculiarly apt to be the seat of these contractions, which may, however, also occur in the lateral regions of the abdomen. It is rare, perhaps, for any one of the above-mentioned causes to exist singly and uncomplicated by any of the others. Neither of the first two, indeed, unless exaggerated by one or other of the latter, could properly rank as a "phantom" tumor. Hardened masses of fæces are probably, however, the most frequent of the exciting causes of the affection. By the irritation produced by their lodgment, the intestines are made to contract irregularly, and local tenderness is also induced, which latter, in its turn, acts as an excitant, in producing reflex rigidity of a part of the abdominal parietes. It has been observed of phantom tumors, that they are by much more frequent on the right than the left side, and that not rarely there are present, in connection with them, indications of renal irritation. Both of these circumstances are probably to be explained by reference to the facilities afforded by the cœcum and ascending colon for the delay and accumulation of scybalous fæces. The period of early adult life would appear to be the one most liable to the development of this chain of symptoms. The simulated tumor in question is by no means met with only in the female sex, some of the most marked examples of it that we have seen, having been in young men. As it regards treatment, that should, of course, be modified according to the peculiar circumstances of the case. A brisk purgative will probably be a remedy almost always useful, and afterwards a course of nervine tonics, or perhaps of anti-spasmodics, may be exhibited with benefit. The chief importance of the cases is in the lesson they convey as to the necessity for great caution before pronouncing positively as to the existence of an abdominal tumor. The surgeon should always be content, in doubtful cases, to examine his patient, on several separate occasions, before venturing an opinion. In most cases, probably, the careful employment of percussion and palpation will be competent to decide the question correctly; but if there be the least doubt remaining, the diagnosis should be deferred until, after the free action of a purgative, a second examination has been instituted.—*Medical Times and Gazette.*

SURGERY AND SURGICAL PATHOLOGY.

Successful Removal of the Superior Maxilla and Eye of the Right Side for an Encephaloid Tumor.—M. Maisonneuve recently presented to the Academy of Medicine, Paris, a patient, on whom he performed this operation, on the 27th of July. We take the following particulars of the case from the *Revue de Therapeutique*:—The patient, aged 46, had perceived a slight swelling, for six years, on the right inferior orbitary margin; for several years the tumor seemed to remain stationary; but, about 1850, its growth became apparent, and he consulted many physicians. He took, without benefit, various remedies, as preparations of iodine, cicuta, arsenic, etc. In 1853, the cheek greatly tumefied, became the seat of deep ulceration and lancinating pains. It was soon after this that the patient came to Paris, and placed himself under the care of M. Maisonneuve. The right side of the face was now enormously swollen, owing to the cancerous degeneration of the entire superior maxilla with the soft parts of the cheek, the orbit, the inferior eye-lid, and the right side of the nose, the centre of which was deeply ulcerated and discharged a fetid ichor. The patient could obtain no rest on account of the pain; left to himself, death was inevitable; and, as medical remedies had been faithfully employed, the only hope was in an operation. This had been pronounced impossible of execution by distinguished surgeons; but, considering that the disease had not invaded any vital organ, that the cervical ganglia were uncontaminated, and that there was no evidence of cachexia, Maisonneuve thought that there was some chance of saving the unfortunate person by an operation, and did not deem it right to refuse this last resource of art. The operation was accordingly performed on the 27th of July, 1854. The patient took chloroform. The operator made a longitudinal incision upon the right side of the nose, prolonged to the free border of the upper lip; the second incision began at the external commissure of the eye, and passed around the external border of the ulceration and joined the first at the alæ nasi. By dissection, the whole anterior portion of the tumor was exposed; a chain saw was then passed in at the spheno-maxillary fissure, and brought out under the zygomatic arch, and the included portion sawn through. The palatine arch and ascending apophyses of the superior maxilla were divided with Liston's forceps, and detaching the velum palati with the bistoury from its attachments, he everted the tumor, and completed its extirpation with the scissors. He now proceeded to extirpate the eye and destroy the diseased tissue within the orbit, the nasal fossæ, and frontal sinuses. The lips of the wound were then brought together, except a vacant space in the centre of the cheek, which was allowed to remain unclosed, the better to observe the progress of cicatrization. No bad results followed, and, in six weeks after the operation, he recovered his usual strength and flesh, and, by means of an obturator, ingeniously contrived by Charrière, the loss of substance is not perceived, and the speech is as perfect as ever. On examination, the disease proved to be osteo-sarcoma of the superior maxillary bone; the globe of the eye was free, but the tissues around it were diseased.

Case of Hydrocephalus, in which the Head was Tapped eight times.—Mr. Brown reports (*Assoc. Med. Jour.*) the case of a child, aged six months, suffering from chronic hydrocephalus, whose head was tapped eight times. At the first operation (August 6th), six ounces of serum were removed, and the head tightly strapped; condition much improved; 18th, head was as large as ever, six ounces removed; September 6th, head still larger, eleven ounces removed; 28th, twenty ounces; October 8th, eleven ounces; 18th, sixteen ounces; 25th, twelve ounces; Oct. 30th, abandoned tapping and inserted a seton of silk through the membranes of the brain, running it along the interior an inch before bringing it out; no immediate result followed, but large quantity of serum discharged. At the end of twenty-four hours there were vomiting, restlessness, and expression of pain; in thirty-six hours twitching of muscles were observed, with moaning and stupor. The seton was removed and the symptoms improved; the head was diminished in size, but soon began to enlarge; tapping was again performed, but the fluid quickly collected, and the case was abandoned to Nature. The head continued to enlarge, and the child died. On examination, a large wash-hand basin of serum was removed; the containing sac was formed by the brain, completely unfolded, and no thicker than the dura mater.

Amputation of the Tongue.—Maisonneuve recently removed the tongue for a cancerous affection. The patient was President of the Committee of Vaccination, and was accustomed to hold the small glass tubes, in which the matter was preserved, in his mouth. The sharp points of glass often wounded the tongue, and these punctures were followed by pimples; induration supervened, which he endeavored to remove by cauterizations. This aggravated the disease and led to deep ulceration; to this the actual cautery was applied, which only gave still greater activity to the affection. The tongue became enormously tumefied; speech was impossible, and only liquid diet could be used. Various remedies were employed without benefit, and amputation was finally decided upon. The operation is thus described by the operator:—

"The patient having been submitted to chloroform, I first incised, on the median line, the lower lip and the soft parts of the chin. Next, with a chain saw, I made the section of the lower jaw; the two branches of which being thus separated, I was enabled to grasp the tongue and draw it out. By a rapid dissection, the diseased organ was then separated from the healthy parts, as far as beyond its anterior half, and over an extent of one inch. The sublingual gland had also to be sacrificed. Ligatures were applied upon the important vessels, so as to prevent hæmorrhage. After this operation, the branches of the jaw were brought together, and maintained in contact, by means of thread rolled round the incisor and canine teeth; the ligatures placed upon the vessels were directed under the chin, in the inferior angle of the chin; and the edges of the division were united by means of the twisted suture. Notwithstanding the extreme gravity of this operation, no accident resulted. The union of the external parts was effected by first intention; the enormous loss of substance was rapidly repaired; the bones became consolidated; and, what is remarkable, forty days after the operation, the patient had recovered his speech, and the faculty of seizing and masticating his food. On examination, the tumor was found to belong to the class of epithelial cancroids."

Femoral Hernia.—A very instructive case of femoral hernia was operated on last week by Mr. Quain, in watching which, we must confess, we felt at fist a little at sea, till the *rationale* of the proceeding was explained to us by this very excellent operator and anatomist. Mr. Quain, to us, at first punctured something like what would be a hydrocele if the patient were a man; next, though wishing to avoid opening the sac, opened two sacs, and wound up, we believe, by leaving Gimbernat's ligament, the bowel, and the other classic parts of the hernia operation, unnoticed altogether. The case was that of Rose Turner, aged 75, admitted Oct. 30th. Mr. Quain, in some clinical remarks, gave the details of another similar case, the only two he had ever met in an immense experience; the woman had a large, troublesome, irreducible hernia in the present case, not at all tender, and curiously placid; she was ordered an enema with castor-oil, and a dose of laudanum to cause rest; the enema was repeated twice, but still the placid hernia could not be reduced; vomiting now setting in, Mr.

Quain advised the operation, which, after some hesitation, she agreed to.

Operation.—Having been partly placed under chloroform to dull the sensibility, a fuller examination of the tumor was made, Mr. Erichsen and Mr. Quain trying the taxis for a last time; it seemed, however, of no use, notwithstanding the curiously-placed state of the tumor. Mr. Quain now punctured the latter, when a full flow of serum followed, which he smelt, to be sure the bladder had not been in the way; making a good bold incision now, he laid open the tumor, still striving to reduce it, without going into what might be the sac; at last, however, he went very carefully into the latter on a director, but there was no bowel! We can quite fancy how puzzled some of our good country friends would be with such a case, without any one at hand to consult, late at night, out on the side of a mountain, in a Scottish land, or on an Irish common, where poor-law guardians pay so munificently. Mr. Quain and Mr. Erichsen now examined the parts, and on slitting them up on a director, and giving exit to a little serum, found behind this sac a smaller tumor, which required some skill to separate from the anterior sac; this posterior sac contained the bowel, apparently not strangulated; from the excessive vomiting of the patient, however, Mr. Quain thought it best to go on with the operation, and opening the second sac, reduced the bowel in the ordinary way; the chief practical fact in the case, as remarked by Mr. Quain, was, that you may have one sac over another, and bad hernia, though there are no external indications.—*Med. Circular.*

Strangulated Hernia, masked by a Tumor in the Groin. By J. Windsor.—On the 6th of March, 1854, I was requested by his son to visit John Horsfield, aged 62, residing at Whitefield, a few miles from Manchester, on the Bury road. I went almost immediately; but he had died about half-past three P..M., before my arrival.

I ascertained the following particulars:—viz., that, eight days before, on Sunday morning, the 26th of February, after a very straining, costive evacuation from the bowels, he was seized with pain in the lower part of the abdomen, sickness, and vomiting. These symptoms, with constipation of the bowels, continuing, a neighboring surgeon was called in, who used a variety of means without affording any decided relief. The tumor or chronic inguinal enlargement was examined, but no hernial descent could be detected; it was therefore supposed that no operation was indicated, and the case progressed to its fatal termination. On one occasion, about twelve months previously, I had an opportunity of examining the inguinal tumor, which was of a somewhat dusky color, projecting immediately under the integuments, and of about the size of a rather large pullet's egg. It was not attended with much pain or inconvenience. Permission being now granted, about two hours after his death, to examine the parts, I found the tumor composed of apparently degenerated glandular substance, most like friable decayed cheese, and of a brownish color, without any appearance of vascularity or organization. On examining behind this if there might be any hernial protrusion, I found outside the external ring a knuckle of small intestines, of a darkish purple color, the descent of which, doubtless, had occasioned the severe symptoms and fatal termination of the case.

Remarks.—The proper mode of combating with success cases like this must at once be apparent; as, although the hernial protrusion may be very difficult of detection, from the superincumbent tumor, yet, if there are unequivocal symptoms of intestinal obstruction, I think it will be conceded that we are justified in making an exploratory incision, by which, as occurred in Mr. Brown's interesting case, above referred to, we may sometimes succeed in rescuing a patient from much suffering, and, indeed, impending death.—*Association Journal.*

Extraction of Foreign Bodies from the Œsophagus.—M. Nelaton has collected with care the various modes of procedure for the extraction of foreign bodies arrested in the œsophagus, and he, in particular, examines the mode of extracting fish-hooks, the removal of which is a matter of great difficulty. In speaking of œsophagotomy, this skillful surgeon proposes a proceeding, which, according to him, is simpler than any other operation. Instead of making a lateral incision, M. Nelaton divides the integuments in the median line, as is done in tracheotomy, but making a more extended incision; he then separates, to the same extent, the sterno-hyoid muscles, so that they can be drawn apart by blunt hooks, or, if necessary, divided transversely, in order to give more space; that done, the isthmus of the thyroid body is laid bare; beneath it is passed a blunt needle, carrying a double thread, in order that two ligatures may be applied; between the two ligatures, the isthmus of the thyroid is divided. The trachea being thus laid bare, the left lobe of the thyroid is separated from it by a blunt instrument, keeping, at the same time, close to the trachea; at the bottom of this cleft, between the trachea and thyroid, the œsophagus is necessarily found, and is to be opened in the ordinary way. By acting thus, all risk of wounding the large vessels of the neck is avoided, and the operation may be performed without injuring the thyroid arteries.—*Elements de Pathologie Chirurgicale.*

Treatment of Strabismus from Paralysis of the third or sixth Nerve, by Cauterizing the Ocular Conjunctiva.—M. Deval, of Paris, has lately repeated this operation, which was first advised and performed by Dieffenbach. The cases in which it is called for are those of paralysis of the third or sixth nerve, without any actual cerebral lesion. The author operates as follows:—The parts should first be well brought into view by using a retractor to the upper lid, which latter should be drawn either to the inner or outer side of the eye, according as the internal or external rectus is affected. The operator himself presses down the lower lid, and, having well cleansed the spot to be cauterized, passes a pencil of nitrate of silver along the course of the muscle. A little brush, dipped in salt water, may then be used to carry off the superabundant particles of caustic. The muscle, thus stimulated, has been known to act pretty well again, as proved by cases quoted by M. Deval. It should be recollected that the internal rectus is inserted into the sclerotic about two lines from the margin of the cornea; the tendon of the external rectus is thinner, broader and more fibrous than that of the same muscle on the inner portion of the eye, and is fixed on the sclerotic at about three lines from the margin of the cornea. Cold applications will suffice for controlling the inflammation which may follow the operation.—*Lancet.*

THERAPEUTICS.

Sugar of Lead, in Diarrhœa, attended with Sickness of the Stomach.—℞. Morphiæ acetatis, gr. ss.; aceti-destillat., ʒij; plumbi acetatio, gr. xxiv.; aquæ destillat., ℥iiiss.; sacch. albi, ʒij; aquæ lauro cerasi, ʒij. lb. Tablespoonful every three or four hours.

Counter-irritant Plasters.—Dr. Hughes uses the following plaster in chronic chest affections:—℞. Emplast. picis comp., ʒiss.; antim, potassio tartratis, gr. x. Dissolve and make a plaster. The plaster is worn for a few days, and then cut away piecemeal, as the pustules show themselves. The cases in which it is employed have been those of chronic pneumonia—either idiopathic or complicated with phthisis, and severe, old-standing bronchitis.

Chloride of Ammonium in Chronic Bronchitis.—Dr. Delvaux has used this remedy in twenty cases with great success. He gives 15 to 40 grains in the twenty-four hours, preceding it always with a purgation, and prescribing a strict regimen for several days.

Treatment of Acne.—In the treatment of this disease, at the London Hospital, for skin diseases, the patient is directed never to wash the face with soap; to be particular to squeeze out any little black points which become visible, and to apply every night to the tubercles a small portion of an ointment, of which the chief active ingredient is the ammonio-chloride of mercury, in the proportions of ten grains to the ounce. The best constitutional treatment in acne simplex is the sulphate of iron, in combination with the sulphate of magnesia, and an access of acid is usually employed; but, in the acne indurata, the iodide of iron is preferred. In either case, the remedy must be continued several months, and the patient may be promised, as a reward, that the disease will be cured and the health improved.

Quinine in Neuralgia, following Herpes Zorta in old people.—Dr. Durrant has treated three such cases successfully which had resisted ordinary remedies, with quinine. It acted as promptly as a specific; on being omitted the pain returned, but was promptly relieved on resorting again to quinine.

Ethereal Solution of Nitrate of Silver.—The usual strength of this solution, as employed in the London Hospital, is eight grains of nitrate of silver to an ounce of the nitric ether; its strength may be modified according to necessity. It has this advantage over the aqueous ablution, that it dries sooner, and is more easily absorbed by the skin, the ether dissolving the fatty matter that exists.

A new form for administering Opium and Acetate of Lead in Cholera.—Mr. Donovan recommends the following:—℞. Acetate of lead, gr. ij; acetate of morphia, gr. $\frac{1}{12}$; acetate of codeine, gr. $\frac{1}{8}$; distilled vinegar, ʒss.; distilled water, ʒi; mix for a draught. Such draughts commence their action as soon as swallowed, and may be repeated as desired.

Common Oat as a Diuretic.—Take two handfuls of oats to a quart of water, and boil for a quarter of an hour; of the strained decoction a teacupful should be frequently given as an ordinary drink.

Ozæna treated by nasal irrigations.—MAISONNEUVE asserts that an injection, thrown *forcibly* into one nostril, will escape from the other without penetrating into the throat, and by this means a continuous current may be kept up through the nostrils. The operation is not painful, and may be practiced by the patient himself. Applying this experiment to the treatment of ozæna, the affected surfaces may readily and effectually be cleansed, with medicated injections, of all crusts and secretions which by their presence and irritation tend to keep up the diseased action.

MISCELLANEA.

Statistics of the Blind and Deaf in Great Britain.—Whole number 21,487, totally blind, of whom 11,273 are males, and 10,214 females. The number in England and Wales is 18,306, of both sexes, in Scotland, 3,010, and in the islands of the British Seas, 171. This gives a proportion of one blind to every 975 persons in Great Britain, one in 979 in England and Wales, one in 960 in Scotland, and one in 837 in the Channel Islands, one in 864 in Ireland.

Pay of British Army Medical Department.—Full pay, per diem, after actual service (in years)—Inspector-General, twenty-five years, £2; twenty years, £1 18*s.*; ten years, £1 16*s.*; Deputy-Inspector, according to the same gradations of service, £1 10*s.*; £1 8*s.*; £1 4*s.*; Staff-Surgeon, first class, ditto, £1 4*s.*; £1 2*s.*; 19*s.*; Regimental-Surgeon, and Staff-Surgeon, second class, ditto, £1 2*s.*; 19*s.*; 15*s.*; under ten years, 13*s.*; Assistant-surgeons, ditto, 10*s.* and 7*s.*

Medical Men for Emigrant Ships.—By the following Act of Parliament, called the Merchant Shipping Act (1854), which is to go into operation 1st of January, 1855, it is provided that the following ships shall carry on board, as part of their complement, some person duly authorized by law to practice as physician, surgeon, or apothecary:—
1. Every foreign-going ship, having 100 persons or upwards on board.
2. Every ship having 50 persons or upwards on board, which is bound on a voyage from the United Kingdom, to the eastward of the Cape of Good Hope, or to the westward of Cape Horn, or to any place on the West coast of Africa, or the East coast of Central or South America, or to the Falkland Islands. Penalty, £100.

Ignorance of Surgeons of the Art of Prescribing.—Mr. Solly, of St. Thomas' Hospital, London, stated in a recent introductory lecture, that the following rule in that hospital, adopted in 1689, was only abolished within his own time:—Ordered, that the ancient rule of this hospital, that no chirurgeon shall give any physic to any patient admitted into this house, but that the doctor alone be left to prescribe physic to all patients, be confirmed, and for the future strictly observed.

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On Muriated Tincture of Iron in Yellow Fever. By E. D. FENNER, M. D., of New Orleans.—I have prescribed it in about thirty cases at the Charity Hospital, and ten cases in private practice, and must say that I think it a valuable addition to our stock of remedies in this terrible disease. I have not ventured to rely upon it *exclusively*, but have given it cautiously, and called in the aid of other remedies, when they appeared to be demanded by the exigencies of the case, such as cupping, purgatives and diaphoretics. I have usually given to adults twenty drops of the tincture, in a little water, every two hours, commencing as soon after the attack as the bowels were well evacuated by castor oil or some other gentle cathartic. The remedy seems to be best adapted to the *early* stages of the fever. The *good* effects I have observed from it are the following: It appears to relieve the pains in the head and back, and induces sleep; it allays thirst, causes a copious secretion of urine, and most generally promotes perspiration; it appears to soften and reduce the frequency of the pulse; it generally sits well on the stomach until ten or twelve doses are taken, and causes an appetite for food, which is sometimes ravenous. On the other hand, I have observed the following *objectionable* effects from it: It sometimes causes vomiting, when continued too long; and is apt to produce constipation of the bowels, though not in all cases; if given late in the disease, it sometimes creates burning in the stomach, and makes the tongue dry. I have not *seen* any benefit from it in *black vomit*, nor much, indeed, after the second day of the fever. I lost two severe cases at the Charity Hospital which commenced taking the tincture on the *second day* of the fever, and four or five others that commenced later, some of them already in a hopeless state; but have had no death, either in the Hospital or private practice, when the remedy was commenced within twelve hours from the attack. I must repeat, however, that my treatment was not confined to this remedy alone. In several it was discontinued, *for cause*, and in others efficient adjuvants were resorted to. In some cases the remedy appeared to act like *a charm*, completely subduing the disease in twelve or twenty-four hours; in others it appeared to do no good. Slight hemorrhage from the nose, gums or uterus appeared in a few cases treated with this remedy, and this was always followed by good effects. It may be supposed by some persons that the cases which yielded so readily under the use of this remedy would have done equally well without any thing but a mild cathartic and warm teas. This is certainly *possible*, but I am not inclined to think it equally *probable*. I repeat, that so far as my experience as yet goes with the muriated tincture of iron in yellow fever, I am inclined to think it possesses considerable *virtues*, and that it well deserves the attention of the medical profession.—*New Orleans Med. News.*

New Indigenous Medical Plants of California. By G. L. Simmons.—Among the indigenous medical plants of California, there are two in common use which seem to possess virtues worthy of notice, the knowledge of which has been acquired by the Americans from the native Californians or hunters. One of them is the Spanish "*Amole*" or soap plant.

This plant was noticed by "Fremont" and other writers on California for its saponaceous properties, but it has only been since the occupancy of the State by the American people, consequent upon the gold excitement, that a knowledge of its medical properties has been known. Presuming it has been botanically described, (not having the authorities to certify the fact) I will merely give its chief characteristics only for the purpose of identification.

The "*Amole*" is a bulbous plant; leaves lanceolate, accuminate, radical, entire, glabrous from 8 to 12 inches in length; scape from 3 to 6 feet high; flowers white, in terminal racemes, panicles small; perianth tubular, 6 parted, 10 lines in length; ovary 3 celled; bulb perennial, 3 inches in diameter, 4½ inches long; scaly; external scales dark brown and fibrous, internal layers white and tender.

Habitat.—Neighborhood of lagoons, Sacramento Valley.

The bulb is the portion used for medical purposes. This, when broken apart and agitated with water, forms a soft and creamy mucilage, from which it has derived its name of "*Amole.*" The mucilage resembles the "*Mucilago acacia.*" Boiling thickens it, and a solution of the subacetate of lead affords no precipitation. It has a sweet taste, and leaves no unpleasant sensation in the mouth. Two drachms operate as a laxative in from four to six hours.

Its principal use in California is as an external emollient application. Many Americans while traveling through the States have been poisoned by the "*Rhus toxicodendron*," which grows there in great abundance. The poison from this article in California is generally of the most violent type, and the usual course of treatment has often failed to afford relief. Some persons when suffering from the malady were advised by the *natives* to make an application of "Amole," and after doing so found themselves relieved; until now the remedy is well established, and in common use. Not only is it beneficial in subduing the inflammation consequent upon poisoning, but in all erysipelatous affections, and many cutaneous diseases, it has proved itself a safe and reliable remedy. It is prepared by taking off the coarse external scales of the bulb, and grating the remainder in a close vessel, a sufficient quantity of water is then added, and the whole triturated until a thick mucilage is formed; this is strained through coarse muslin, and it is applied to the affected part in a similar manner to a *cataplasm*, at the same time it is administered internally as often as may be necessary to keep the bowels open.

"*La Yerba Resinosa*" (so-called by the Californians,) is another plant worthy of notice. It grows from 1½ to 3 feet high. Leaves, alternate, sessile, oblong obtuse, serrulate, deciduous, 2 inches long; flowers, collected into a dense capitulum; scales, setose, monaceous; diameter, 1 inch; color, orange yellow. The leaves, head, and stem of this plant are covered with a transparent resinous substance, which has a strong aromatic odor, resembling somewhat that emanating from the balsam fir. This resin is most abundant when the plant is in full flower. At these times if the finger is applied to the under side of the capitulum, and allowed to remain there for a few seconds, upon withdrawal the resin will be found adhering in long transparent strings. It gathers in tears around the base of the scales, and is a source of inconvenience to the traveler, who is obliged to come in contact with it. The plant flowers from June until August, and its odoriferous properties are so strong and peculiar, that the scent which at first seems pleasant, finally becomes disagreeable, and even sickening. An alcoholic tincture of the leaves and flowers in the proportion of two ounces to one pint of sp. vin. rect., yields upon evaporation two drachms of the resinous substance. Obtained in this form, it presents a greenish black appearance, and retains the peculiar odor of the plant.

The medical properties of "La Yerba Resinosa" are those of a tonic *febrifuge*. The prevailing malady in California is intermittent fever. In some localities, at certain seasons of the year, no age or sex is exempt, and the discovery of an indigenous plant possessing the properties of the usual febrifuge remedies, cannot fail to prove a blessing, especially to those who reside at remote distances from cities and towns.

The usual manner of preparing this remedy is by decoction, although many make a tincture with some kind of alcoholic liquor. The last method would seem to be preferable, as the resinous property of the plant is soluble in water only to a limited extent.

Its effects upon the system seem to be somewhat similar to those produced by cinchona, yet they more closely resemble those produced by the action of the Eupatorium perfoliatum. Given warm, even when a chill or fever is present, it produces a profuse diaphoresis, and carried to any extent, catharsis, and sometimes emesis. It is used in dysenteries and diarrhœas, as well as fevers; and as these maladies in California are usually more or less complicated with intermittent symptoms, it is given with considerable benefit. From its abundance and apparently high medicinal virtues it is to be hoped that medical men generally will test its efficacy, and if it does possess the attributed properties, have it placed in a prominent position in our *Materia Medica.—American Jour. of Phar.*

Worms in the Urinary Bladder. By Bennet Dowler, M. D.—A case of this anomaly is reported by Dr. D. in the November number of the *New Orleans Medical and Surgical Journal.* The patient, a lad aged thirteen years, had been in bad health for a long time. The father of the boy, Mr. B., having assembled his neighbors for the purpose of "*a house raising*," at which whisky was drank as usual, some of the men succeeded in getting Mr. B.'s boy to drink until he became quite intoxicated. A painful and obstinate retention of urine followed, which lasted four days, and which did not give way until he discharged several living worms from the urethra, some of which were fifteen inches long. He has since discharged from the urethra a number of similar worms—in all about twenty; three of which were delivered to me by the parents, inclosed in a phial of whiskey. One of these exceeds ten inches in length, and is nearly one inch in circumference for the distance of three inches from the head backward. A longitudinal band, which is smooth, constitutes the belly. One-fifth of the body, next the head, has numerous well-defined semi-circular rings, which are obliterated on both sides as they approach the abdominal band. The middle third of the worm is nearly smooth; the tail becomes rough, wrinkled, and annulated like the undeveloped joints of the tapeworm. The anterior portion of the body is nearly uniform in size for more than one-third of its length; it then abruptly diminishes to less than two lines in diameter; two considerable enlargements occur in the posterior third, or caudal extremity, which latter has a thread-like termination. These enlargements divide the tail into three unequal parts.

The head consists of numerous well-defined rings, closely set, which compress the cephalic extremity more and more for a quarter of an inch—from the centre of which projects a proboscis, which at its emergence is more than a line in diameter, and about two in length, formed of rings, which become smaller until they terminate in the blunt proboscis which is studded with strong fangs or hooks. In the interior of the animal, adhering the back or dorsal aspect, two large parenchymatous columns, varying in size with the body, extends its whole length, being like lard in color, but a little firmer in consistence.

The other two worms appear to be of a different species, resembling tænia in structure, being flat and having numerous short annulated articulations with acute margins, like the joints of the tapeworm before development; one worm is five and a half inches in length—the other something less, both being almost uniform in size, scarcely averaging a line in width. All of these worms are white.

SURGERY.

Report on the Relative Value of Lithotrity and Lithotomy. By Prof. L. A. Dugas, M. D., of Ga.—The *Southern Medical and Surgical Journal*, for December, contains a report on this subject, made to the Medical Society of the State of Georgia. We have room only to extract the following:—

In treating the subject assigned us, the question of the relative fatality of the two operations presents itself as one of primary importance. By reference to the works of M. Civiale, and to the more recent treatise of Mr. Coulson, we find a very considerable collection of statistical information; a portion of which we will use without further reference. Mr. Coulson has collected well authenticated reports of no less than 6,369 operations of Lithotomy, "more than two-thirds of which have been performed since the commencement of the present century," in which "the number of deaths was 958, and the general mortality, therefore, 1 in 6.62 cases." From the tables published by M. Civiale, it appears that of 582 lateral operations performed in France, 101 resulted fatally, making the proportion of deaths 1 in 5.70, and of 2,278 cases of Lithotomy performed in various parts of Europe, 443 terminated fatally—or 1 in 5.14. From the tables of Mr. Coulson, the results in Great Britain were, in 1,744 operations, 251 deaths, or 1 in 6.93. According to Mr. Coulson's estimates the fatality of Lithotomy at different ages may be thus stated:—

Below 10	years of age, it is	1 in 13
From 10 to 20	" " "	1 " 9
" 20 to 30	" " "	1 " 6
" 30 to 40	" " "	1 " 5
" 40 to 50	" " "	1 " 4
" 50 to 60	" " "	1 " 3.65
" 60 to 70	" " "	1 " 3.23
" 70 to 80	" " "	1 " 2.71
	Aggregate proportion,	1 " 8.37

M. Civiale arrives at the following result:—

From 1 to 10	years of age, the deaths are	1 in 8.47
" 11 to 20	" " "	1 in 7.41
" 21 to 30	" " "	1 in 4.62
" 31 to 40	" " "	1 in 5.32
" 41 to 50	" " "	1 in 6
" 51 to 60	" " "	1 in 2
" 61 to 70	" " "	1 in 1.89
" 71 to 80	" " "	1 in 1.20
	Aggregate proportion,	1 in 5.94

The Records of Pennsylvania Hospital, according to Dr. Norris (Report in *Trans. Am. Med. Association*, vol. i.) show that from 1752 to 1848, there were 83 operations of Lithotomy, of which 72 were cured, 10 died and 1 was relieved. The private practice of surgeons, both in Europe and in this country, has in many instances presented a striking contrast with the statements derived from hospital records. It is unnecessary, however, to furnish further statistics upon this portion of our subject.

With regard to the fatality of Lithotrity, we find ourselves restricted to the writings of M. Civiale for any thing specific. The success of this distinguished surgeon in the treatment of calculous affections is without a parallel; and, although his statements were at one time (doubtless from a narrow spirit of envy) made the subject of serious imputations, they are now generally conceded to be fairly established, and are, we believe, so recognized by the French Academy. M. Civiale has published a complete account of each case, as well as tables of results. From 1824 to 1848, he had 848 cases of calculous disease —upon 591 he performed Lithotrity, of whom 14 died, or 1 in 42.21. The following will exhibit the number of cases, at different ages, so far as recorded:—

25	cases,	from	1 to 20	years	of age.
80	"	"	21 to 40	"	"
124	"	"	41 to 50	"	"
44	"	"	51 to 60	"	"
234	"	"	61 to 80	"	"
5	"	"	81 to 90	"	"

M. Leroy d'Etiolles reports 11 deaths in 116 operations. M. Heurteloup states that he has lost but 1 in 8.

The conclusions of M. Civiale (op. cit., p. 48) with regard to the relative value of Lithotrity and Lithotomy, are as follows:—1st. Lithotrity, when well performed in appropriate cases, will save from 96 to 98 patients in 100. 2d. The remaining fourth of calculous subjects unfit for Lithotrity may be subjected to Lithotomy. 3d. By Lithotomy, if exclusively practiced and without distinction of age, from 20 to 30 per cent. will be lost. 4th. If applied to children exclusively, Lithotomy will save nine-tenths. 5th. If applied to adults of all ages, Lithotomy saves from 50 to 75 per centum.

Case of Hypertrophy of the Male Mamma—Removal. By Prof. Paul F. Eve, M. D., of Nashville, Tenn.—This was a singular case, and came from Texas. The enlarged mamma has existed years, and having resisted various discutient applications to remove it or check its growth, it was thought best to resort to the knife. The patient is 23 years of age. The left mamma has the aspect of the breast of a girl at fifteen or sixteen; its nipple is quite sensitive to the touch, and has a large areola around it, and the body of the tumor feels fibrous through the skin. No pain has ever been experienced in it. On the same day of the two preceding operations, viz., Thursday the 5th, the enlarged mamma was removed by elliptical incisions including the nipple, while the patient was in a profoundly insensible condition produced by chloroform and ether, and the usual dressing then applied. Although there was apprehension that the circulation was at one time greatly embarrassed during the inhalation of the anæsthetic agents, he soon threw off their influence, and has had a speedy recovery.

The mass removed is flat, nearly the size of the palm of the hand, and is apparently a hypertrophied mamma, without any redundancy of adipose structure. It has not yet been subjected to the microscope.—*Nashville Jour. of Med. and Surg.*

Case of complete Extirpation of the Uterus for Inversion.—Recovery. By Prof. E. Geddings, M. D., of Charleston, S. C.—From the *Charleston Medical Journal*, we learn that Prof. Geddings has successfully removed the uterus for inversion. The patient was a negress; the accident of some eighteen years' standing. On examination, a large pyriform tumor, equal in magnitude to a fœtal head at the full term, was observed, proceeding from within the vagina, and hanging between the thighs of the patient. Its surface was covered with a rough, thickened mucous membrane, abraded and ulcerated on many points. The orifice of the urethra was but little removed from its normal position. The operation for its removal was performed by seizing the tumor high up and manipulating in such a manner as to exclude all the convolutions of the intestines, which could be readily felt, and then passing a strong ligature around the part. The neck of the tumor was then divided below the ligature by a single snip of a probe-pointed bistoury. The operation was easy and attended with no pain. On making a section of the tumor, it presented a solid homogeneous mass, of a grayish white texture and fibrous appearance. The whole cavity, formed by the inversion of the walls, had become obliterated by the adhesion of the opposing peritoneal surfaces. The after treatment of the case was simple, and the patient in the course of a few days speedily recovered.

Case of Rupture of the Uterus. Operation of Gastrotomy—Recovery. By John K. Mason, M. D., of Philadelphia.—We find in the *Quarterly Summary of the Transactions of the College of Physicians, of Philadelphia*, the report of a case of successful gastrotomy for rupture of the uterus. The patient was in labor with her sixth child. Rupture of the uterus occurred two hours and a half after her sickness commenced, and when in the act of defecating, immediately on the occurrence of which she complained of intense agonizing burning pain in the right side. The head of the child receded, and could be felt through the abdominal parietes. Twelve hours after the occurrence of the rupture, Dr. Neil performed gastrotomy under the influence of ether, by an incision through the linea alba, six inches in length. The child, which was hydrocephalic, was removed, together with the placenta and large quantities of coagula. The usual sutures and dressings were applied. Considerable constitutional disturbance occurred during the first ten days; but, on the twenty-first day, she was about house, and one month after she had entirely recovered. A like successful case of gastrotomy in rupture of the uterus is reported in the April (1854) number of the *American Journal of Medical Science*, by Dr. John T. Gilman, of Portland, Me. The operation was performed twenty-one hours after the occurrence of the accident.

Cæsarean Section twice successfully performed on the same Subject.—By W. H. Merinar, M. D., of Miss. In the *Medical Examiner*, Phil., we find the particulars of the following case:—A woman, aged 24 years, was taken in labor on the 14th of July, 1852; for three days she was attended by a midwife; the labor had been active, and the waters had escaped on the second day. On the arrival of Dr. M., he found great deformity of the pelvis—its antero-posterior diameter not exceeding two inches. On the morning of the 18th, uterine contractions ceased, the patient lay exhausted and stupid, skin hot and dry, great tenderness over the abdomen, much thirst, and pulse 124. After consultation, Cæsarean section was decided upon. An incision, five and a half inches in length, was made. The uterus was then laid open and a dead male child extracted. The placenta and membranes were then removed; the usual dressings were applied. In the course of recovery no very severe symptoms manifested themselves, and on the 20th of September she had entirely recovered. On the 22d of May, 1854, she was again taken in labor; the pains were violent, and, at midnight of the same day, were so severe, notwithstanding the free use of opiates, as to threaten danger. Cæsarean section was again decided upon. An incision was made parallel with the first. The womb was laid open and a living male child removed. Following the delivery of the placenta and membranes, there was but little hæmorrhage. The usual dressings were then applied. On the fourth day after the operation, somewhat severe symptoms set in, which, however, were controlled by energetic treatment; after this her recovery was gradual. On the 28th of August, both mother and child were enjoying good health.

Surgery in California.—We find, in the *Marysville Daily Herald*, an account of the operation of wiring together the united fragments of the thigh-bone of an Italian, which had been fractured eight months previously. The operator was Dr. McLean, of the French Hospital of that city, and the operation seems to have been performed dexterously, and gives promise of success.

MISCELLANEA.

*Positive Medical Agents.**—We have received a volume prepared by B. Keith & Co., of this city, bearing the foregoing title. The work contains a description of the various substances prepared by the Institute, their physical properties; mode of administration; medicinal properties; formulæs for their combination with each other, for the cure of diseases for which they are applicable, etc. In regard to the mode of preparation of the remedies described, we have searched throughout the volume for some satisfactory information, but have failed in obtaining it. Of the value of the agents described, our own experience is too limited to pronounce correctly upon this point. We should be glad to hear from any of our readers who may have used or shall hereafter use them.

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* *Positive Medical Agents: Being a Treatise on the New Alkaloid Resinoid, and concentrated Preparations of indigeneous and foreign Medical Plants.* By authority of the American Chemical Institute. New York: C. B. Norton, 1854, 8vo. pp. 304.

*Biographical Sketches.**—A kind friend has sent us a copy of this interesting pamphlet. We know of no subject so pleasing to, and at the same time so well adapted for, the intellectual repast of the younger members of our profession, on the occasion of their Annual Meeting, as the reminiscences of the past—the incidents of the early struggles of the pioneer physicians of our State. We have been ofttimes surprised that the themes for our annual address were not more frequently chosen from this field of historical research. We commend this little brochure to the careful perusal of our readers.

New Editions of Medical Books.—The well-known publishers of this city, Messrs. S. S. and W. Wood, have recently issued new editions of the following works:—Quain's *Anatomical Plates*, 4to., with 200 plates; Goddard *on the Teeth*, 4to., with 30 plates; Harrison's *Text Book of Anatomy; Dublin Dissector;* Beck's *Infant Therapeutics.* They announce also for publications Johnson *on Diseases of the Kidney.*

Viviparous Fish.—Dr. Bennet Dowler has recently published an account of a small osseous fish, found in the neighborhood of New Orleans, which proved to be viviparous, having at the time of the examination twenty-two well formed young in its body. The same species of fish had previously been discovered by Dr. Gibbons, in California.

OBITUARY.

Death of John P. Hiester, M. D.—Dr. Hiester died in Reading, Pa., on the 15th of September last, aged 51 years. He was born in Berks county, Pa., in 1803. In 1827 he graduated at the University of Pennsylvania, having presented a thesis "*On Indigestion.*" He was a distinguished practitioner, a great lover of botany and chemistry. He was enthusiastically devoted to the great interests of the profession, and was lately President of the Pennsylvania State Medical Society.

Death of Dr. T. Mather.—Died in Binghamton, N. Y., on the 8th of October last, Dr. Thaddeus Mather, in the 76th year of his age. He was born in Windsor, Conn., in March, 1778. For thirty years he practiced medicine in Delaware county, N. Y. He is said to have been a skillful and distinguished physician, pursuing its arduous duties with untiring industry, and abundant success.

Death of George F. Turner, M D.—Died of yellow fever, at Corpus Christi, on the 17th of October, Dr. G. F. Turner, Surgeon of U. S. Army, aged 40 years. The deceased was a distinguished member of the Medical Corps of the U. S. Army. His contributions to medical literature were not numerous. In the first volume (*New Series*) of this Journal, may be found an exceedingly interesting article from his pen, on *Epidemic Miliary Fever*, as observed at Fort Snelling, Upper Mississippi, in the winter of 1847–48.

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* *Biographical Sketch of the Medical Profession of Broome County, N. Y.* Read before the Broome County Medical Society at its Annual Meeting, October 7th, 1851. By S. H. French, M. D., President of the Society. Binghamton, 1854, 8vo. pp. 63.

Death of Dr. William Turk, U. S. N.—Died in Newark, N. J., on the 20th of November, Dr. Turk, aged 77 years. He was born in the City of New York, and graduated in Columbia College, in the Class of 1796. In 1800 he entered the U. S. Navy as surgeon's mate, and in 1813 was appointed surgeon, and was engaged in active service during the war. He was the oldest surgeon, but two, on the Navy List, and was much beloved and respected by a large circle of friends.

Death of Dr. Robert Semple.—Dr. Semple died at his residence, fourteen miles south of Colusa, California, on the 25th of October last, from injuries received by a fall from his horse. He was well known to many of the earlier residents of California, having emigrated from Kentucky, across the plains, in 1845. After having taken a prominent part in the Bear Flag revolution in that year, he located at Benecia. He was a delegate to the convention for the formation of a State Constitution, in August, 1849, and was unanimously chosen President of that body. He, in company with Walter Colton, established the first newspaper in California, at Monterey, in 1846.

Death of Samuel Parkman, M. D.—Died in Boston, on the 15th of December, Dr. Samuel Parkman. He was a graduate of the Medical Department of Harvard University, in 1838, and for a number of years he was Demonstrator of Anatomy in that Institution. He was also, for some time, one of the surgeons of the Massachusetts General Hospital.

Death of Dr. Golding Bird.—Died at Tunbridge Wells, on the 27th of October last, Golding Bird, M. D., F. R. S., aged thirty-eight years. For some months previous to his decease, his failing health had obliged him to relinquish all his professional duties. He had long suffered from an affection of the heart, but the immediate cause of his death arose from kidney disease. He has thus fallen a victim to a malady, the elucidation of which has rendered his name distinguished among the promoters of strict science in Medicine. We need hardly add, he was the well-known writer on *Urinary Deposits, etc.*

Death of Dr. G. L. Roupell.—Died of Cholera, in London, on the 29th of September last, George Leith Roupell, M. D. He was Senior Physician to St. Bartholomew's Hospital, and one of the most eminent, accomplished, and high-minded practitioners of the English Metropolis.

Death of Prof. Lallemand.—Died recently, at Marseilles, M. Lallemand. He was formerly Professor of Clinical Surgery at the University of Montpellier, but was particularly distinguished by his admirable writings on the *Diseases of the Encephalon*, *on Spermatorrhœa*, and last, though not least, his *Clinique Medico-Chirurgicale.*

TO READERS AND CORRESPONDENTS.

☞ The author of each original communication published in this Journal, if desired, will receive twenty copies in sheets, provided a request to that effect be made, upon either manuscript or proof, when handed in. All arrangements for extra copies, in pamphlet form, must be made directly with the printers, Messrs. Holman & Gray.

☞ Owing to the unexpected length of the leading article in the present number, several original communications have been laid over, and an analytical review of the last volume (XXXVII.) of the Medico-Chirurgical Transactions.

The following works have been received :—

Lectures on Histology, delivered at the Royal College of Surgeons of England, in the Session 1851–52. By John Quekett, Resident Conservator of the Museum of the Royal College of Surgeons of England, and Professor of Histology. Vol. II. *Structure of the Skeleton of Plants and Invertebrate Animals.* Illustrated by two hundred and sixty-four wood-cuts. London: Hippolyte Baillière, 219 Regent street, and 290 Broadway, New York. 8vo., pp. 413. (From the Publishers.)

Illustrated Manual of Operative Surgery and Surgical Anatomy. By MM. Ch. Bernard, D. M. P., and Ch. Huette, edited with notes and additions, and adapted to the use of the American medical student, by W. H. Van Buren, M. D., Prof. of Anatomy, University Medical College, and Surgeon to the New York Hospital; and C. E. Isaacs, M. D., Demonstrator of Anatomy, University Medical College, and Consulting Surgeon to the Penitentiary Hospital, Blackwell's Island. Illustrated with steel engravings, from drawings after nature, by M. J. Leveille. Designed to serve as a companion to the ordinary text-books of Surgery. New York : H. Baillière, 290 Broadway, and 219 Regent street, London. Paris : J. B. Baillière, Rue Hautefeuille, 1855. 8vo., pp. 513. (From the Publishers.)

A Manual of Pathological Anatomy. By C. Hanfield Jones, M. B., F. R. S., Fellow of the Royal College of Physicians, London, etc., and Edward H. Sieveking, M. D., Fellow of the Royal College of Physicians, London, etc. First American edition, revised, with three hundred and ninety-seven illustrations. Philadelphia: Blanchard and Lea, 1854. 8vo., pp. 733. (From the Publishers.)

An Inquiry into the Pathological Importance of Ulceration of the Os Uteri, being the Croonian Lectures for the year 1854. By Charles West, M. D.. Fellow of the Royal College of Physicians, Physician-Accoucheur to St. Bartholomew's Hospital, London, etc., etc. Philadelphia : Blanchard and Lea, 1854. pp. 88. (From the Publishers.)

☞ *For a review of this work see Sept.* (1854) *number of this Journal.*

Report of a Trial for alleged Mal-practice against Dixi Crosby, M D., Prof. of Surgery, etc., in the Dartmouth Medical College ; in the Windsor County Court at Woodstock, May term, 1854. Verdict for defendant. Woodstock, 1854. (From Prof. Dixi Crosby.)

Report of the Sanitary Commission of New Orleans, on the epidemic Yellow Fever of 1853. Published by Authority of the City Council of New Orleans. New Orleans, 1854. 8vo. pp. 542. (From Dr. Barton.)

Autobiography of Charles Caldwell, M. D., *with a Preface, Notes, and Appendix.* By Harriot W. Warner. Philadelphia: Lippincott, Grambo, & Co., 1855. 8vo. pp. 454. (From the Publishers.)

Puerperal Fever as a Private Pestilence. By Oliver Wendell Holmes, M. D., Parkman Professor of Anatomy and Physiology, in Harvard University. Boston: Ticknor & Fields, 1855. 8vo. pp. 60. (From the Author.)

What to Observe at the Bed-side and after Death in Medical Cases. Published under the Authority of the London Medical Society of Observation. Second American from the second and enlarged London edition. Philadelphia: Blanchard & Lea, 1855. 12mo. pp. 228. (From the Publishers.)

Annual Reports of the Commissioners and Superintendent of the Indiana Hospital for Insane, to the General Assembly, November, 1854. Indianapolis, 1854. 8vo. pp. 74. (From Dr. Athon.)

Twelfth Annual Report of the Managers of the State Lunatic Asylum. Transmitted to the Legislature January 17th, 1855. Albany, 1855. 8vo. pp. 48. (From Dr. Gray.)

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane. Presented to the Corporation at their Annual Meeting, January 24th, 1855. Providence, 1855. 8vo. pp. 31. (From Dr. Ray.)

Medical Science, or Disease a Unit. By H. Backus, M. D., of Selma, Ala. Selma, 1855. 8vo. pp. 45. (From the Author.)

Report of the Board of Health of the City of Brooklyn, December, 1854. Brooklyn, 1854. 8vo. pp. 17. (From Dr. Hutchison.)

Annual Report of the Superintendents of the Poor of the County of Kings, for the year ending July 31*st*, 1854. With accompanying Documents. Williamsburgh, 1854. 8vo. pp. 47. (From Dr. Tucker.)

The Transactions of the New York Academy of Medicine. Vol. I., Part 3. containing a Report on Solidified Milk, by the Standing Committee on Public Health and Legal Medicine. New York, 1855. 8vo. pp. 11. (From the Academy.)

Anniversary Discourse before the New York Academy of Medicine, delivered in Clinton Hall, November 22*d*, 1854. By John H. Griscom, M. D. Published by order of the Academy. New York, 1855. 8vo. pp. 58. (From the Academy.)

The Transactions of the New Hampshire Medical Society. (Sixty-fourth Anniversary.) Held at Concord, June 6th and 7th, 1854. Concord, 1854. 8vo. pp. 56. (From Dr. Hubbard.)

☞ We are in receipt of our usual exchange Journals.

☞ Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to Drs. Purple and Smith, Editors of the New York Journal of Medicine, 183 Hudson-street, *New-York.* Persons at a distance may direct parcels, or exchanges, *paid* as above, under cover, to M. J. B. Baillière, Rue Hautefeuille, *Paris;* or H. Baillière, 219 Regent-street, *London;* or Lindsay & Blakiston, *Philadelphia;* or Ticknor & Co., *Boston.* The attention of Correspondents is respectfully requested to the above, as the Publishers are frequently subjected to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the Proprietors.

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THE NEW-YORK

JOURNAL OF MEDICINE

FOR MARCH, 1855.

PART FIRST.

ORIGINAL COMMUNICATIONS.

Art. I.—*On the Climate, Diseases and Materia Medica of the Sandwich (Hawaiian) Islands.* By Luther H. Gulick, M. D., of Ascension Island.

This first attempt to collect and arrange systematically all the facts of medical interest connected with the Hawaiian or Sandwich Islands, is necessarily imperfect, but will, it is hoped, be not an unworthy contribution to the department of Medical Topography.

We will first notice the important elements of that which, Dr. T. C. B. Rooke remarks, "yet remains a parodox," viz.:

THE CLIMATE OF THE HAWAIIAN ISLANDS.

Before studying diseases themselves, we investigate their causes, and it is self-evident that a thorough apprehension of the producing and modifying agents of disease in any locality cannot be fully attained prior to a familiar acquaintance with the climate, for under this term are included several most potent predisposing and exciting causes.

The *Locality* of the Hawaiian Islands, geographically expressed, is from 18° 50′ to 22° 20′ north latitude, and from

154° 53′ to 160° 15′ west longitude. Situated so far both from the eastern and western continents, the group is most effectually removed from their immediate controlling influences so far as climate is concerned. The group lays on the northern boundary of the torrid zone—once each year the sun arrives at the zenith of its meridian. Its climate, so far as affected by relative position, ought, therefore, to be mild, equable, and salubrious—and such it may unhesitatingly be pronounced.

The *Geological character* of the Hawaiian Islands is strictly volcanic, the coraline element being very insignificant. Each island is emphatically rugged and mountainous. On Kauai, Maui, Oahu, and Hawaii, many of the elevations are of considerable altitude. On Maui, Mauna Haleakela is over 10,000 feet high, and on Hawaii, Mauna Loa is 13,760 feet, and Mauna Kea 13,950 feet in height. The arable and habitable parts of the land are in detached portions, thrown in among the hills or on their seaward slopes. The great body of the population occupy positions near the sea, which have an elevation above its level varying from ten to perhaps an hundred feet. In the central portions of East Maui and of Hawaii much higher localities are inhabited. Waimea on Hawaii, the highest village of the group, is about 4,000 feet above the ocean's level. The southern slopes of the islands are exposed to solar influences under much more favorable conditions for warmth than the northern, the rays of light and heat during most of the year striking them in lines nearer vertical, and therefore more favorable for absorption, which, combined with the fact that the most important winds are from the northeast, from which the southern aspects are sheltered by the central mountain heights, conspires to render the southern or leeward aspects of islands generally the warmer and dryer, and the northern aspects the cooler and more humid.

The *Soil* is peculiarly volcanic, consisting of the débris of the primitive rock, light and porous, hence readily parched and apt to take on the form of dust, yet incapable of long retaining acquired heat. The climate is therefore readily affected, so far as it is influenced by the calorific capacities of the soil.

The *Streams* and so-called rivers, though redolent of poetry, are such insignificant bodies of water as to here deserve scarce a passing notice—from the necessities of the case, they are short and small. From what has been said, lakes would not be expected.

The *Winds* of the islands are important in their relations to the climate, and may, perhaps, be referred to four classes: 1. The Trade Winds. 2. The Land and Sea Breezes. 3. The Southwest Winds or Gales. 4. The Variable Winds.

The *Trade Winds* are most efficient agents for good in the climate of these islands. Situated as the group is, near the northern limits of the trade wind zone, when the trades, with the sun, have made their farthest advances northward, it is brought under their full action; but when the sun is in southern declension, and when the trades, following it, have made their farthest oscillation southward, the group is beyond their limits and under the action of that cloud-zone, under which there is a constant precipitation of moisture, and which ever hangs over that oscillating line just north of the trade wind zone, where, as by Lieut. Maury, we are taught that the northeast and southwest currents of the upper air meet. The trade winds blow steadily from the northeast about six months. They give way during the months of November, December, and January. October, February, and March, are debated months, during which, however, the trades generally predominate. Having fairly secured their ascendancy in the spring, they blow with remarkable uniformity, and often with "considerable violence, almost amounting to a gale." These breezes, pure and cool, arrive from their ocean voyage with much of humidity adhering to their unseen wings, from whence it is precipitated in frequent showers that fertilize the whole windward coast. They are the equalizers of torrid heat, and the correctives of all miasmatic exhalations. Their influence is felt on all parts; but from what has been remarked of the high midland elevations, it will be readily seen that the southern and southwestern aspects are, in greater or less degree, protected from their direct effects. We therefore find two varieties of climate during the season of their prevalence. The one, on the northern and northeastern shores, cooler and more humid, for here the trades first kiss the green-clad isle, and drop their dewy tears of joy; the other, on the southern and southwestern coasts, dryer and hotter. The whole is expressed by the terms "windward" and "leeward."

These notices of the trade winds must be somewhat modified in reference to Hawaii, the largest and most southern of the group, which is so large (being 88 miles long and 68 wide, having an area of about 4,000 square miles) that it interferes with the force of the trades, and with their regularity, and allows the *Land and Sea Breezes*, in obedience to their own laws, on all its leeward border, and "in some degree even on its northeast coast, where the trades are usually freshest." The trades, in their passages over the comparatively small areas of the northern individuals of the group, are perfectly competent to effecting an equilibrium between it and the surrounding seas, and so, in the main, prevent the series of actions and reactions productive of the diurnal currents. But on Hawaii, the area being much greater, an equilibrium of temperature is not effected by the trades, especially on the southern coast, and immediately the land and sea breezes arise.

Of the *Southwest Winds*, which are the rainy winds, and which, being coincident in time with the superposition of the cloud-zone, produce the rainy season, it must be remarked that they are intermittent, blowing continuously for several days and weeks, and then giving place to the finest of inter-tropic weather, again to return. I quote from Mr. Jarvis' *History of the Sandwich Islands:*—"The southwest wind brings heavy rain, and is usually loaded with a briny vapor, which is deposited upon vegetation and causes it to wither as if touched with frost. Its effects are equally disagreeable to the human system. Headaches, catarrhs, rheumatisms, and kindred diseases prevail during their continuance. Upon foreigners its influence is very obvious, causing a compression about the head, and an enervation which greatly incapacitates the body for all active business; the atmosphere is thick, raw, and at times feels like the heated air of a furnace. The miasms, arising from the lagoons, which exist to some extent near Honolulu on the sea side, are blown back upon the land. By the natives it is known as 'the sick wind,' and with great propriety."

The *Variable Winds* occur during the same part of the year with the southwestern, viz.: during the winter. The following table exhibits the number of days of the prevalence of each wind.

	Trade Winds.	Southerly Winds.	Variable Winds.
At Honolulu 1837	295	44	26
" " 1838	258	71	36
At Waioli 1845-6	220	146	

Hurricanes and tornadoes, by virtue, perhaps, of the group's remote position from neighboring lands, are unknown, and thunder-storms are rare and mild, which indicates that the electric conditions are subject to no great or sudden alternations—a circumstance favorable to health.

Such *Udometric*, *Barometric*, and *Thermometric* facts as I have been able to collect, shall be presented, together with a few additional details regarding the winds. I very much regret my inability to secure all such tables which I know to be published.

Com. Wilkes, in speaking of the same place, remarks:—"It rains nearly nine months in the year, and, from the rainbows formed by these passing showers, it has obtained its name, which signifies the land or place of rainbows—'Halelea.' A few days of dry weather are quite unusual. During three months, included in the above nine, rain fell on fifty-two days; fourteen were cloudy. During the remaining twenty-four the weather was clear, but it rained occasionally at night."

Rev. Mr. Johnson's Meteorological Table for 1845–6, at Waioli, on Kauai, is interesting, as being the only one I have of a locality on the windward side of any of the islands. This table was first publised in *The American Journal of Sciences and Arts.* I copy it from Mr. Bingham's "*Sandwich Islands.*"

Month and date.	Fah. Thermometer.						Winds.				Weather.									
	Average at 5½ a.m.	Average at 1 p.m.	Average at 6½ p.m.	Maximum.	Minimum.	Mean.	N.E. Trades a.m.	N.E. Trades p.m.	Var. a.m.	Var. p.m.	Rain in inches.	Fair a.m.	Fair p.m.	Cloudy a.m.	Cloudy p.m.	Show. a.m.	Show. p.m.	Rain a.m.	Rain p.m.	R'n at night.
April, 1845.	66·0	75·0	70·0	82 0	62·0	70·2	21	20	10	11	14·0	9	4	4	11	10	9	7	6	17
May, "	69·6	80·3	74·0	85·0	66·0	74·6	27	27	4	4	6·0	11	10	5	4	14	15	1	2	10
June, "	71·6	82·6	75·0	90·0	66·0	76·4	25	27	5	3	4·0	16	17	2	1	10	10	3	3	12
July, "	72·0	82·0	75·8	86·0	69·0	76·3	30	30	1	1	8·0	9	7	7	6	9	16	6	2	21
August, "	71·6	83·2	76·9	89·0	67·0	77·2	29	29	2	2	5·5	9	15	2	5	7	8	3	3	12
Sept., "	71·4	82·6	76·6	87·0	68·0	76·8	28	27	2	3	5·4	16	12	3	4	11	13	0	1	14
October, "	69·6	78·5	73·8	84·0	64·0	74·0	18	16	13	15	18·4	11	10	5	3	9	10	6	8	22
Nov., "	66·7	78·3	72·0	82·0	57·0	72·3	4	4	26	26	5·2	22	19	2	4	4	4	2	3	10
Dec., "	65·2	75·0	69·0	82·0	57·0	69·7	7	7	24	24	5·0	18	10	6	5	6	6	1	1	11
January, 1846.	62·0	71·8	67·9	79·0	54·0	67·2	3	3	28	28	4·6	18	7	8	8	1	4	4	3	10
Feb., "	63·3	73·5	68·4	78·0	57·0	68·4	10	10	18	18	3·0	16	14	10	10	0	1	2	3	10
March, "	63·4	75·8	69·5	80·0	56·0	69·5	18	18	13	13	6·6	15	14	16	8	4	4	6	5	16

"At *Koloa*, on Kauai, the thermometer varies from 50° to 90°." (Jarvis' *History of Sandwich Islands.*)

The following most valuable and complete "General Table of Meteorological Observations at *Honolulu*, from January 1st, 1837, to January 1st, 1839," was prepared for the *Hawaiian Spectator* by T. Chas. Byde Rooke, F. R. C. S. Honolulu is on the south side of Oahu, and is by far the most important town of the Islands.

1837.	Barometer.			Fah. Therm.			Winds.			Weather.			Rain during the month in inches.
	Aver. height at 7 a.m.	Aver. height at 2 p.m.	Aver. height at 10 p.m.	Average at 7 a.m.	Average at 2 p.m.	Average at 10 p.m.	Trades days.	Southerly days.	Variable days.	Fine days.	Rainy days.	Var. days.	
January	29·970	30·006	30·043	67·9	76·6	71·3	10	14	7	24	3	4	2·0
February	30·076	30·030	30·060	71·1	71·7	72·7	22	4	2	19	3	6	1·7
March	30·098	30·057	30·087	69·6	76·6	72·4	19	6	6	22	2	7	2·5
April	30·128	30·092	30·117	72·1	78·4	73·7	30	0	0	25	4	1	1·2
May	30·109	30·085	30·097	73·4	80·2	75·0	30	1	0	29	1	1	0·9
June	30·093	30·061	30·085	76·1	81·9	77·5	29	0	1	21	3	6	1·4
July	30·115	30·095	30·107	76·4	81·5	77·3	28	1	2	21	7	3	2·8
August	30·077	30·066	30·087	76·9	82·8	78·1	30	0	1	22	3	6	2·0
September	30·095	30·060	30·097	76·5	83·0	77·0	29	1	0	29	1	0	0·7
October	30·116	30·076	30·120	74·8	80 6	76·0	26	4	1	28	1	2	0·4
November	30·070	30·029	30·071	72·7	77·9	73·8	19	7	4	18	8	4	4·5
December	30·124	30·072	30·115	69·9	76·5	71·1	23	6	2	27	1	3	1·0
Average	30·128	30·060	30·090	73 1	79·5	74·8	295	44	26	285	37	43	21·1

1838.	Barometer.			Fah. Therm.			Winds.			Weather.			Rain during the month in inches.
	Aver. height at 7 a. m.	Aver. height at 2 p. m.	Aver. height at 10 p. m.	Aver. at 7 a. m.	Aver. at 2 p. m.	Aver. at 10 p. m.	Trades days.	South. days.	Var'ble days	Fine days.	Rainy days.	Var'ble days	
January	30·060	30·028	30·054	69·3	75·6	71·5	21	5	5	25	3	3	0·8
February	30·016	29·970	30·005	71·2	75·3	72·1	20	3	5	18	6	4	8·5
March.	30·105	30·064	30·095	72·0	75·1	72·5	22	3	6	21	4	6	2·1
April	30·127	30·095	30·140	71·5	76·7	72·8	29	1	0	27	1	2	1·0
May	30·149	30·139	30·162	73·2	80·3	75·5	25	5	1	28	1	2	0·5
June	30·085	30·040	30·090	75·5	81·7	77·1	20	7	3	17	3	10	2·5
July	30·091	30·068	30·092	76·4	82·5	77·9	26	3	2	24	3	4	1·5
August	30·078	30·052	30·078	77·2	83·2	78·4	30	1	0	28	1	2	1·2
September	30·073	30·035	30·068	76 7	82·6	78·4	27	2	1	25	3	2	2·5
October	30·040	30·021	30·042	75·0	80·1	76·9	16	7	8	20	5	6	12·0
November	30·041	30·008	30·044	72·3	76·6	73·7	18	9	3	19	5	6	6.7
December	29·978	29·876	29·993	71·5	76·3	73·3	4	25	2	23	6	2	7.5
Aver. of year	30·087	30·033	30·072	73·5	78·8	75·1	258	71	36	275	41	49	46·8

Of *Waialua*, on the western side of Oahu, Com. Wilkes affirms, on the authority of residents:—"The thermometer ranges from 75° to 80°, and has not fallen below 55° for several years, and rarely below 60°."

The temperature of *Lahaina*, on the south of Maui, as given by Dr. Chapin (*Amer. Jour. of Sci. and Arts*), corresponds with that of the above-mentioned places. He was guided by Rev. Mr. Richards' tables, kept for ten years, which exhibit "the highest thermometric elevation at 86°, the lowest at 54°, the extreme difference 32°, and no day during the whole period exhibits a difference of more than 19°. June has the highest range, January the lowest." "Lahaina is one of the most arid districts of the group, and has seldom rain sufficient to moisten the soil through its whole depth, except in the winter or rainy season. For months in succession the sun is scarcely obscured by clouds, and its exemption from the direct influence of the trades might lead us to expect several degrees of the thermometer above the more wet and windy portions; but so far as my observation has extended, and I have visited every portion of the island, it is not the case."

Of *Kailua*, on the west or lee side of Hawaii, Capt. Wilkes states:—"During the winter the thermometer ranges, at sunrise, from 64° to 78°; at mid-day, from 76° to 85°; at sunset, 70° to 80°. In summer the range is 68° to 80° at sunrise; at mid-day, 78° to 86°; and at sunset, 72° to 81°."

Of *Kaawaloa*, on the lee coast of Hawaii, Capt. Wilkes states:—"The thermometer ranges between 62° and 76° in the winter, and from 70° to 86° in the summer, and seldom above 86° or below 62°."

"The average temperature of *Waimea*, Hawaii, situated in the interior at an elevation of about 4,000 feet, is nearly 64° Fahrenheit, 48° being the lowest extreme." (Jarvis' *History of the Sandwich Islands.*)

It is to be regretted we have no greater number of statistics regarding the falls of *Rain*, but we shall probably state the truth with sufficient accuracy, if we allow the average annual amount on the windward shores to be seventy-five inches, and on the leeward, twenty-five.

The climate of the Hawaiian Islands is one of the most equable possible. A few comparative statements, principally deduced from the preceding tables and statements, will be of interest.

The *daily range* of thermometer is:—at Penzance, 6½°; at Nice, 8½°; at Rome, 11°; and at Honolulu, 12°.

The *mean difference of successive months* is:—at St. Augustine (Florida), 3° 68′; at Penzance, 3° 05′; at Key West, 2° 44′; at Madeira, 2° 41′; and at Honolulu, in 1837, 1.59°, in 1838, 1.77°; and at Waioli in 1845–6, 1.77°.

The *mean annual range* (I quote from Dr. Lee, in Dr. Copland's *Dictionary of Prac. Med.*) is:—at St. Augustine, 53°; at Penzance, 49°; at Key West, 37°; and at Madeira, 23°. At Honolulu, the extremes, during twelve years, were 90° and 53°, the range being 37°; during 1837 the maximum was 85°, the minimum was 61°, the range 24°; and during 1839 the maximum was 86°, the minimum 62°, the range 24°. At Lahaina, during a period of ten successive years, the extreme points of thermometric elevation and depression were 86° and 54°, making a range of only 32°. At Waioli, in 1845–6, the maximum was 90°, the minimum 54°, the range 36°. It is palpable that these statements regarding Lahaina, Honolulu, and Waioli, are by no means as comparatively favorable as they might be, for they either refer to individual years, or embrace periods of ten and twelve years, and give the absolute extremes, rather than the mean annual ranges, as given for St. Augustine, Penzance, Key West, and Madeira. It is my impression that the mean annual range of many Sandwich Islands localities will yet be proved less than even that of Madeira.

The *mean annual temperature* of the West Indies is 79° to 81°, on the leeward side of the Hawaiian Islands about 75°, and on the windward about 72°.

On our present subject Dr. Chapin remarks:—"The climate will be found extremely pleasant and equable, and not surpassed in salubrity by any in the world. Indeed, what place can be found more uniform—the thermometer, during a space of ten years, not having varied more than thirty-two degrees; and where no day during the same period had a variation of more than nineteen degrees; where the same clothing is found comfortable the whole year, and where no other regulator of the temperature is needed than simply to open or close a window."

Dr. Judd, in noticing the amusing observations on the weather one will hear in the course of a half-hour's walk, says:—"One will tell you the weather is very pleasant; another, who, perhaps, has taken a little more exercise than usual, will say it is hot; another, at ease in the shade, will remark it is cool; while another will ascribe to the weather any other quality which his own dullness or buoyancy of spirits may suggest. The fact, most probably, will be, that there is nothing unusual or noticeable in the weather, and it would not be a subject of remark, but for our early habits in a land of sudden and severe changes. The natives seldom speak of the weather; indeed, there is no word in their language to express that general idea, and it is only the occurrence of a storm or something unusual, that attracts sufficient attention to make it a subject of remark."

The Hawaiian Islands have been spoken of as well suited to persons of phthisical tendencies; and, in many respects, they are admirably adapted. Such uniformity of mild temperature is only equaled by few far-famed localities. The period will, probably, soon arrive when consumptives will resort there for health, as they now visit the West Indies or the Canaries. Not every season is equally favorable, however. The dry or trade wind season, from April to September inclusive, will, probably, be found the best, as may be inferred from the following table deduced from those already given:—

	April to September.				October to March.			
	Max. Therm.	Min. Therm.	Range Therm.	Inches Rain.	Max. Therm.	Min. Therm.	Range Therm.	Inches Rain.
Honolulu........1837	85°	71°	14°	12·6	83°	61°	22°	9 5
" 1838	86°	68°	18°	11·3	82°	62°	20°	35·5
Waioli.........1845–6	90°	62°	28°	42·9	84°	56°	28°	42·9

Nor are all parts of the Islands equally favorable. Selections must be made, and they can be, though neither Honolulu nor Lahaina, the two most populous and important seaports, is to be most highly recommended.

As the Islands are populated by a race of higher civilization, and as the luxuries of life are multiplied and diffused so that the best adapted localities shall furnish the essentials for an invalid life, and as the facilities for communication are increased and multiplied, the reputation of their most romantic and varied scenery, and their almost unparalleled salubrity, will rapidly make them a noted resort for the united objects of pleasure and health.

THE DISEASES OF THE HAWAIIAN ISLANDS.

With such a climate as just described, it will be asked, what of aggravated disease is to be expected. I reply, that the greatest number and worst aggravations of diseases among the native Hawaiians are due to their miserable modes of living. Did they live physiologically, they themselves would secure the same immunity from acute and destructive diseases that the natives of foreign lands among them enjoy, and might multiply, in contradiction of the nonsensical gibberish which speaks of "the *inevitable fate* of the Indian race before the foot of the Anglo-Saxon." Though in very many particulars improved, they still, as a nation, require medical reform. The effort would be an interesting one, to attempt, more directly and systematically than any of their benefactors have yet been able to do, the medical education of the islanders. This must, perhaps, be effected mainly through medical men of their own nation, educated by foreign physicians. And as such men, if of proper moral character, will be of eminent service in the civilization of other Pacific Ocean islanders, we may hope the attempt will soon be systematically commenced.

Their diseases are principally dependent on sudden variations of temperature (this, too, in a climate emphatically uniform)—on irregularity in diet,—and (though it involves a second paradox) on defective cleanliness, though habitually a nation of bathers—"causes which, it is believed, owing to general improvements, are annually less active in their nature, and in time will mostly be checked." (Jarvis.) The Hon. Mr. Wyllie, in his *Notes on the Hawaiian Islands*, remarks:—"Dr. Chapin considers that most of the diseases, to which the natives are subject, arise from cold, bad houses, and bad clothing. The means of preventing the operation of these causes are to be sought for only in the diffusion of wealth, created by general industry, for which there are superabundant elements."

We will first treat of SYPHILIS, pronounced by some, as by Dr. Chapin, "the monster disease." We here enter debated ground; but reliance on the testimony of judicious medical men, whose long residence there gives them authority to speak, will extricate us.

The stereotyped history of Syphilis among them runs thus:—The disease was unknown until the discovery of the islands by Capt. Cook. From his crew it was first communicated to the females of Waimea on Kauai and of Kealakeakua on Hawaii, and from thence it radiated through the unimpeded channels of licentiousness over the whole group, among all ranks. From 1778 till now the disease has done its work of mutilation and death, has manifested itself in all its hideous deformities, and has so destroyed the Hawaiian constitution that the nation is spoken of as physically rotten, and that the hopes of continued national existence are destroyed. I quote the *Narrative of the U. S. Ex. Expedition:* —"Mr. Whitney imputes this rapid decrease to foreign vicious habits, and both foreign and native authorities attribute the introduction of the venereal to the visit of Capt. Cook. This infection, brought to these Islands by the first voyagers, may now be said to pervade the whole population, and has reduced the natives to a morbid, sickly state; many of the women are incapable of child-bearing, and of the children which are born only a few live to maturity." Dr. Chapin, in *The American Journal of Medical Sciences,* says:—"With such an introduction, the venereal disease has for the past fifty-seven years continued to spread and increase; perpetuated and extended, too, by almost every vessel which touches at the Islands, till words fail to express the wretchedness and woe which have been the result. Foul ulcers, of many years' standing, both indolent and phagedenic, everywhere abound, and visages horridly deformed, eyes rendered blind, noses entirely destroyed, mouths monstrously drawn aside from their natural position, ulcerating palates, and almost useless arms and legs, mark most clearly the state and progress of the disease among that injured and helpless people." Rev. Artemas Bishop remarks:—"Their previous looseness of morals formed a ready conductor for the disease which was introduced by the first ship which touched here, and from the account given by the natives themselves, the consequences were incalculably more dreadful than had been feared by Capt. Cook and his associates. The deadly virus had a wide and rapid circulation throughout the blood, the bones, and sinews of the nation, and left in its course a train of wretchedness and misery which the very pen blushes to record. In the lapse of a few years, a dreadful mortality, heightened, if not induced, by their unholy intercourse, swept away one-half the population, leaving the dead unburied for want of those able to perform the rites of sepulture." The following, by David Malo, a native Hawaiian writer, is worthy of quotation, for its just recognition of God's moral discipline exerting itself through the ordinary and natural laws of disease:—"This disease has become prevalent among the people, and even children, and all the people of the Islands are miserably diseased; and it is clear that, from the arrival of Capt. Cook to the present day, the people have been dying with the venereal disorder. Foreigners (David Malo, would, of course, make many exceptions) have lent their whole influence to make the Hawaiian Islands one great brothel. For this cause God is angry, and he is diminishing the people, and they are nigh unto desolation."

Though many of the above statements are incontrovertibly true, they, probably, convey an exaggerated view of a great and real evil. Knowing that the disease had been introduced and had been disastrous, many an ulcerous leg and ophthalmic eye, and nearly the whole body of deformities, congenital and acquired, together with all the barrenness of the females, were imputed to the monster disease. Still we shall not deny it the character of an important individual among their maladies, and one that, with several other grave causes which have each reacted on the other for evil, has materially assisted on the nation's calamity.

Another series of statements must also be subjected to doubt,—namely, that which, without broaching the involved question as to the previous existence of a venereal disease, would make that disease introduced by Capt. Cook different in kind from any thing which could have preceded, and very different in degree, if not in kind, from any thing now existing. This opinion need not, perhaps, be more particularly discussed in this paragraph, as our remarks on the third series of statements will further elucidate this.

The philosophical query, as to the true period of the inception of the disease among the Hawaiians, involves a discussion of the long-mooted question of its origin among Europeans—a debate we shall sedulously avoid. Whatever may be the theory of its existence in Europe or at the Sandwich Islands, anteriorly to the respectively accredited periods of 1493 and 1776, the fact seems undeniable, that at about those dates a disease, supposed to have been before unknown, spread with marvelous rapidity, attacking primarily the genitals, but introducing as accompaniments or sequelæ "excruciating nocturnal pains, corroding ulcers over the whole body, affections of the throat and nose, and, very frequently, death." (J. Bacot.) Whatever we may deem probable, or may demonstrate as certain, as to the anterior existence of genital diseases, it must be admitted, that, as in Europe, so at the Hawaiian Islands, there came a time when particular morbid developments on and near the organs of generation received unusual attention and were attended by constitutional symptoms unnoticed before, and by remote local diseases of unprecedented phagedenic character—that this new disease (as it was supposed to be) was contagious in a wonderful degree, and spread through the nation, and was a source of general dread, often proving miserably fatal. As proofs, we need but refer to such statements as just quoted from various residents, which are undeniable and decisive on these points, whatever we may judge as to their over-statement regarding the national degeneracy being mainly attributable to this monster.

With regard to the present condition of the disease, it seems also undeniable that as in Europe, so at the Sandwich Islands, Syphilis has ceased to be a dread, and though there be many syphilised constitutions, the immediate developments of the disease are not usually found save in the channels of systematic prostitution. And, in confirmation, I will quote, first, a report made in 1839, before the annual meeting of the Protestant Mission of the Islands, by a committee consisting of the physicians of the mission, who, at that time, constituted by far the majority of the resident physicians. I transcribe a considerable portion of the report for its intrinsic importance, though the last sentence quoted is that bearing directly on the subject at issue.

"1. That they find the climate of the Islands highly favorable to the development and perfection of the animal economy, the mean temperature being within a few degrees of that point which physiologists consider most favorable to human life, and free from those sudden and great changes to which most other climates are subject.

"2. That notwithstanding the favorableness of the climate, they find an unusual amount of disease among the natives, especially of the sub-acute character, which, though for the most part not very painful, tends always to undermine the constitution and pave the way to a premature grave.

"3. That the immediate causes of most of their maladies are plainly ascribable to their frequent violation of the first principles of correct living; to their low estimate of life, and recklessness of themselves; to their wretched habitations, which furnish little comfort or protection; to their practice of lying on the damp ground; to want of protection by clothing, in exhausted conditions of the system, against vicissitudes of the weather; and to their poverty, which keeps them strangers to necessaries and comforts.

"4. That we have witnessed no fatal epidemics since we arrived at the Islands, and that, of those diseases depending upon a specific contagion, almost no lives are now lost. * * The venereal disease, which, probably, did once make considerable havoc among this people, seems now so far to have worn itself out, that we seldom see it as recently contracted, except about the harbors, and there not extensively, and very few deaths from it have occurred in our practice. Neither do we perceive that this disease materially retards the increase of population on these Islands."

Dr. Lafon, several years a resident at those Islands, affirms, in reference to abortions, that they are no more frequent than elsewhere, and that they very rarely have connection with Syphilis; and as to the effects of the disease on the progeny, it also is infrequent. He unhesitatingly asserts that mistakes are made in attributing to Syphilis the great body of ulcers and tumors and other occasional results of the disease.

Mr. Jarvis, in his History, says:—"The venereal disease has almost exhausted itself, and it is rarely to be met with, except about the sea-ports, where the virus is kept active by augmentation from foreign countries. Even in these places it does not prevail either extensively or fatally, nor can it be said materially to retard the increase of population at the present time."

These authorities, who bring with them every element of reliability, agree in the assertion that primary Syphilis is comparatively rare. Who will, then, question the direct and inevitable inference that secondary Syphilis must be at least as infrequent. And if this be established, it will be seen, as before intimated, that that class or form of statements which pronounces the Hawaiian constitution syphilitically rotten, and which solves the problem regarding depopulation by the asserted prevalence of the venereal taint, must be in some degree erroneous. With the above facts before us, the national constitution cannot be affirmed to be syphilitically destroyed, unless the theory be developed that individuals and a people may be so tainted by this disease, through their ancestors, as to lose their powers of procreation. Such a theory will, so far as I am aware, be a new one to the medical world. Without doubt, syphilitic children of syphilitic parents attain to less vigor and are more liable to disease, and, so far as these causes are operative, may be possessed of less virility; but have we evidence of a specific effect on the procreative faculties of the descendants? Is there naught that destroys virility but Syphilis? And if such a fact or law as the above theory be yet proved, we must neither then nor now ignore the much more palpable and better known causes to which we shall presently allude.

It will be noticed that our authorities speak of the disease having "worn itself out," and of its having "exhausted itself." These expressions cannot have been intended by their authors to be taken in a rigid medical construction, as though it were proved that this virus did, by any law in any community, lose its inherent virulence. It will be sufficient to say of the period of aggravated syphilitic affections at the Hawaiian Islands, as of that in Europe, that by a better·acquaintance with the medication of the disease, and with the laws of its propagation, and also by the consequent removal of the veil of mystery, the era of dread and devastation was passed. It may also be suggested that Syphilis, like other diseases, may have its periods of aggravation from unknown epidemic causes, and that the syphilitic periods of Europe and the Hawaiian Islands may have been complicated with such causes. It must also be borne in mind that the morals of the people have since that time been improved —a cause which would alone tend to lessen the evil. It must also be noticed that at the Sandwich Islands, during the period in question, there existed certain political and civil conditions which served as great aggravations not only to the syphilitic but to other affections, and that these conditions are not now as disastrous as then. We pass on to a more particular consideration of these conditions.

The question now presses itself as to those causes of depopulation, to which allusion has been made, on the supposition that they were of themselves sufficient without an overpowering and still active syphilis. I answer it by quotations of some length from Mr. Jarvis' *History*, and will leave it for others to judge whether they are not conditions sufficiently disastrous not only to directly diminish the number, but even to lessen the fecundity of the nation, especially when we superadd the readily acknowledged disaster of Syphilis in its usual and well known degrees.

"Since the time of Cook a rapid decrease has occurred. Neither is this melancholy result of difficult solution. The population of the Islands probably never amounted to what, with the aids of civilization, they could be made capable of supporting. During their heathen state, though divided into many hostile tribes, perpetually engaged in warfare, their battles, from the imperfection of their weapons, were comparatively bloodless. That very condition served to develop enterprise and a national spirit, though accompanied with beastly excesses, and thus a spirit favorable to physical growth was stimulated. The boundless hospitality which every chief was obliged by the spirit of his race to exercise, and which prevailed even among the canaille, always found food and shelter for the oppressed. A man dissatisfied with one master had but to flee to another, and he was sheltered and welcomed. Taxes were heavy and much labor required, but as it was generally for the support of the whole, an interested motive existed. The same work which would destroy the energies of a man who was to receive no reward for his toil, would produce health and cheerfulness in one who had an interest in the result. Every individual had that to some extent in the wealth and success of his chief; hence a patriarchal feeling was developed, which, with long used and uncontested power, will sufficiently account for the deep reverence, fear, and canine-like attachment, with which the common people regarded their superiors. Exceptions to this no doubt prevailed, and much misery was the consequence; but as a general principle it was correct, and stands in strong contrast with the relative condition of the two classes, after a thirst for foreign wealth was developed by intercourse with whites. A grasping, avaricious disposition succeeded; ends were to be attained regardless of the means used. The little natural human feeling the chiefs possessed, was extinguished by an all-powerful passion for gain. Interested foreigners stimulated this desire; cargoes of rich goods were brought, luxuries displayed, and no means left untried to excite their cupidity. The unfortunate result is well known. The whole physical resources of the kingdom were over-wrought, and women and children were taxed beyond their powers. Sandal wood was to be collected; mountains and valleys almost inaccessible were to be penetrated, and heavy loads borne on bleeding shoulders to the sea-side. Like the children of Israel, their toil was doubled and their sufferings found no consideration in the eyes of their cruel task-masters. Cultivation was neglected, and famine ensued. Multitudes perished under their burdens;

others left their homes and wandered like wild beasts in the depths of forests, where they either slowly sunk under the horrors of want and starvation, or sustained a miserable existence on roots and wild fruits. Blind to the consequences, the chiefs continued the same policy. Debts were contracted which must be discharged, and increased taxes were imposed. No property was safe. A native could neither hold nor acquire—all was his chief's—even his children became a source of additional suffering, for every head was taxed!—infanticide greatly increased;—parents gave away their offspring, and the natural feelings of the nation were crushed beneath this iron despotism. Life became a wearisome burthen; numbers of the most active sought safety and employment abroad. The first effects of Christianity added to this already intolerable load. So long had this system been pursued, that no other plan of public works, than the compulsory labor of the whole population, seemed feasible. Regardless of the instruction and advice of their religious teachers, they added to their labors the toil of building churches, school-houses, and other works, necessary in themselves, but erected by unholy means. This system prevailed in later days, with mitigations, however, until 1838, when it began to give way before the combined influences of the mission and foreign residents, and the more enlightened efforts of the native population.

"Before Cook's visit, diseases were few and simple. Subsequently they increased in number and virulence, while the remedies and knowledge necessary for arresting them remained unknown; the fatality attending novel illness, the progress of which they knew not how to arrest, produced a deep and often fatal spirit of despondency.

"Alcohol and licentiousness have usually been considered the most aggravated causes of depopulation; but their influence has been exaggerated. The habits of the natives in both respects are now better than they were before their discovery, when drunkenness, produced by the use of *awa*, and promiscuous intercourse and incest were almost parts of their natures.

"A powerful agent, though one the effects of which have been greatly overlooked, is the partial adoption of foreign clothing. This may seem paradoxical; but unfortunately it is too true. * * Many would wear their clothes but part of the time, and then, finding them inconvenient from extra heat or cold, throw them aside altogether. The utmost irregularity prevailed, not only from poverty, but from carelessness and from ignorance of the results. * * Their constitutions, already enfeebled, from causes before mentioned, could ill bear such treatment. Colds and fevers greatly increased, and of a more fatal tendency. Trivial predispositions to disease were aggravated, and death was the frequent result of attacks which the slightest prudence could have obviated.

"Much else might be named, which would cause the philanthropist less to wonder why they decrease, than that it should have been so slight in comparison to the many causes so actively at work to create it. * * It must be remembered that these causes were all additional to those which existed prior to their discovery, and which were of themselves sufficiently active to prevent any rapid increase."

The Hon. R. C. Wyllie, speaking of the supposed depopulation by Syphilis, says:—"There no doubt has been, and, I fear, still to a great extent exists a cause, in the laxity of native morals, why that disease should be propagated with unusual universality, and that very cause will add to the effect of disease in preventing offspring; but the outward appearance of fat and health, more general here amongst the natives than amongst the Indian tribes of Mexico, or any country in South America, is opposed to the belief of such an inward rottenness as could render the race unprolific, without the influence of other causes." The opinion of a gentleman of such eminent intelligence and general and medical information weighs much.

It is but proper that, before leaving this topic, I refer more particularly to Dr. Chapin's articles, especially to that in *The Boston Medical and Surgical Journal*, Vol. 42, No. 5, where a greater potency is ascribed to the venereal than I have admitted. He maintains the syphilitic origin of a large number of affections, because "mercurial remedies" alone effectually reached them; and upon this the query rises, whether this be the best or proper test for the diagnosis of venereal. But though his diagnosis be both admitted and proved, it still remains to be established that the lack of fecundity among the Hawaiians, as compared with "the lowest class of Irish, and with the blacks of our own southern States (neither of whom are more moral, or regular in their lives, nor more temperate, nor better fed)," justifies us in counting Syphilis "the most prominent cause of disease at the Sandwich Islands." I trust the above discussion has gathered light on the subject.

Having thus dismissed the consideration of Syphilis, I shall not find a fitter place than the present to express a thought concerning the prophecy of the extinction of the Hawaiian race, founded on the ancient canon that all so-called Indian races must vanish before the Anglo-Saxon. The canon is based on an unfair and unchristian induction, which involves the supposition that Anglo-Saxon intercourse must always be attended by those Anglo-Saxon immoralities which have been the real destroyers, and that it is impossible in any instance to correct the effects of such commerce. Whatever shall be the ultimate fate of this interesting race, the efforts of no philanthropists should be damped by unfounded predictions. There is yet hope for a small remnant of this and other races which Anglo-Saxon would-be-philosophers have destined to annihilation. I again quote from Mr. Jarvis, the able and impartial historian. "Their depopulation was more rapid, as far as can be ascertained, in the reigns of Kamehameha II., and his successor Liholiho, than at a more recent period. As Christianity and civilization have advanced, in just that proportion has this mortality ceased. Their effects are of too recent a nature to predict the final consequences, but it may be confidently expected, that as the fatal tendencies are counteracted, and others allowed to operate, good results will ensue." "Evil as the most active principle may for a while riot uncontrolled, counteracting and more powerful tendencies are at work, which must eventually neutralize and overcome the former."

SCROFULA, considered apart from consumption, is reported as one of the frequent causes of disease among the native population. Dr. Judd says:—"Scrofula is very common in the various forms of goitre, ulcers, tabes, etc." Dr. Chapin says:—"Scrofula is not only frequent, but extremely malignant." Its cause is a little obscure, though it is, perhaps, readily enough given, if we use the general language which the custom of medical authorities on this subject allows us. We can, without difficulty, enumerate a number of debilitating causes; and if, with Dr. Alison, we limit "the causes of debility" to those "acting permanently, or habitually for a length of time, although not so powerfully as to produce sudden or violent effects," we may refer to their miserable houses, which are no sufficient protection from the weather, and in which they sit and sleep on the ground, with only a mat or two intervening. It is, indeed, their universal habit to make the ground their seat, which is everywhere more or less damp. Com. Wilkes, in speaking of their diseases, says:—"Many of them are brought on by living in their grass houses, which are by no means impervious to the weather. Another frequent cause is the partial decomposition of the grasses with which they are thatched on the roof and sides. In passing into them I invariably experienced a smell of mustiness, and a mouldy appearance is frequently seen about their mats and tapas." Says Mr. Jarvis:—"The houses of the common orders were mere hovels, made of straw, thatched upon a light wooden frame. They were low, small, and damp, and generally filthy within and without."

Their clothing, too, was partial and insufficient. The primitive Hawaiian costume, which is now rapidly giving place to more civilized habits of dress, was prepared of the bark of trees, and consisted of a sheet tied at two corners and thrown over the shoulders, with another narrow strip wound round the loins and passing between the legs—or, for a female, a long piece about a yard in width, wound about the lower part of the body and descending to the knees, with, perhaps, a sort of shawl of the same.

Their food, too, was irregular, often "bad and deficient," and always principally "vegetable food." If these, as Mr. Philips contends, are productive of scrofula, we certainly can account for its existence among these islanders, for their food was almost exclusively vegetable, being preparations of the *arum esculentiam.* Fish was frequently an adjuvant, but it was rather an occasional than constant article of diet.

But the question arises, how, if, indeed, their modes of domiciliation and clothing and dieting be efficient producing causes, did they once, as a nation, thrive with comparatively little scrofula, though their houses and modes of dress and articles of food were essentially the same. The difficulty is, I think, satisfactorily met by the statements regarding the causes of depopulation already made. Their political conditions for long years rendered their preparations of food less ample and timely, their houses even less comfortable and habitable, and their clothing less complete and protecting.

Whether marriages between different races tend, as is generally supposed, to produce the scrofulous diathesis, the fact is interesting that, at the Hawaiian Islands, the children of alliances between the natives and Chinese, or negroes, or any of the Enropean nations, are far more healthy, and are better physically developed than those of pure Hawaiian blood. This may, however, only be because the indigenous race is so far exhausted that foreign blood is, with all its disadvantages, better than their own; or, more probably, because such descent generally receives more appropriate and efficient parental care.

Malarious Diseases, of all types, are rare, if not unknown—either because malaria is not there present, or because, if generated, it is so quickly dispersed.

How simple and beautifully circular the usual process of reasoning on this subject! Wherever malarious diseases prevail, there certainly malaria is present, and if, in investigating the causes of disease, we inquire for malaria, its absence is conclusively shown by the absence of recurring fevers, even though, as at the Sandwich Islands, sheets of stagnant water expose their surfaces to the constant action of a tropic sun, and though the inhabitants build their houses on embankments in the midst of the exhalations (either malarious, or the opposite), which must constantly rise.

Their "taro patches" are artificial ponds of water in which the taro is planted. These, in advantageous localities, are crowded very closely together, and present very considerable areas of water, and in among these ponds the natives very frequently live, enjoying as perfect health as elsewhere.

This might be urged as a proof of the fallacy of the malarious theory of periodic fevers, yet without much force, for even if it be proved that malaria is here generated, the fact of its harmlessness is readily explained by reference to the influence of the winds, which are felt more or less constantly and directly on all parts of the groups. On this subject Dr. Chapin makes an important remark:—"It might be an interesting subject of inquiry, which I have not seen discussed, why the islands generally, throughout the world, if we except those spots covered by cities, made pestilential by crowded populations, are so free from those poisonous exhalations which abound on the continents, so generally between the tropics, and, during the warm weather, over such an extent of the temperate zones, especially along the rivers." "On the continents are large marshes, putrid with vegetable and animal decomposition, draining into streams nearly stagnant from the sluggishness of their courses, whilst on the islands, swamps are less abundant, and the streams are short, fresh, and rapid, and whatever malaria is generated is quickly diluted, and borne off by the passing sea breezes, and thus rendered innocuous."

But we may even question whether the same bodies of water in the same soil, in regions remote from the trades, would be prolific of malaria; for, first, the ponds are every few days receiving fresh supplies of water; and, secondly, the soil is not that which, from its extreme richness in vegetable matters, would be supposed able to part with much that is noxious; and, thirdly, the ponds are kept almost constantly full, so that parts once moistened are kept submerged. Besides these taro patches, the few possible sources of malaria are utterly insignificant.

"With so entire an exemption from the existence of miasmata, there is also an entire exemption from those affections induced by it. Malignant bilious fevers do not occur, and * * * derangements of the liver and biliary organs do not prevail, neither are the stomach and intestinal canal, and other organs of the abdominal viscera subject to the numerous and complicated affections so common in every miasmatic region." (Dr. Chapin.)

Yet in 1803 or 1804, a pestilence raged which has by some been supposed to have been yellow fever, and by others, Asiatic cholera. "In the year 1804, when the late King Kamehameha was on his way from Hawaii to invade Kauai, he halted with an army of eight thousand men at Oahu. The yellow fever broke out among the troops, and in the course of a few days swept away more than two-thirds of them." (Journal of Tyerman and Bennet, vol. 2., p. 48.) "The great pestilence of 1803 destroyed multitudes, and has been supposed to have partaken of the character of the Asiatic cholera." (Jarvis' *History*.) Of this disease we can only say, that it probably was not either yellow fever or cholera.

Other forms of *Fevers*, not exanthematous, though "the most frequent and numerous class of diseases among the native population, are by no means the most malignant and fatal. * * * The excitable state of the system which predisposes strongly to febrile attacks, is not common at these Islands. The continued and oppressive heat is there not sufficient of itself to produce it, and the universal custom among the people, to repose during the hottest part of the day, aids in counteracting other unfavorable influences. The simplicity, too, of their diet and habits of life is not calculated to promote a state of excitability." (Dr. Chapin.) The fevers are apt, I should judge, sometimes to take on the symptoms generally termed typhoid, though malignant typhus is rarely seen.

Of the *Exanthematous Fevers* little can be said, save that they have at occasional intervals been introduced. The natives seem never to have had them previous to the discovery of the Islands, and their insular position protected them for some time subsequently.

In 1848, *the Measles* in some unknown way made its advent among the unfortunate islanders. They had never before seen the disease—the symptoms were to them new and singular. It was difficult to impart to the masses the proper mode of treatment, and they, in their ignorance, during its eruptive period, under the disagreeable sensations of heat, frequently made applications of or immersed themselves in cold water, making it tenfold more than usually fatal.

Small-pox has never spread among the people, and should it now arrive they are probably quite well prepared for it by vaccination.*

In 1839, *Mumps* were introduced (though I violate order in noticing it here), and "prevailed very generally, and in some cases terminated fatally through mismanagment."

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* In May, 1853, the small-pox appeared for the *first time* on the Sandwich Islands, and it spread with fearful rapidity and unprecedented mortality, about 6,000 of the unfortunate victims of the disease, or *eight per cent. of the entire population,* having been swept off in the space of eight months.

The malady is believed to have originated on the Islands from fomites, that had been conveyed from San Francisco to Honolulu in a chest of cast-off clothing. As the disease extended in Honolulu and its vicinity, the natives became panic-stricken, and fled in wild confusion and alarm to remote districts of that Island (Oahu), and to the other Islands ; thus unhappily conveying the pestilential infection throughout the entire group of Islands, and to almost every community. The disease was of the gravest type, and was manifestly rendered thus by a most marked variolous epidemic constitution.

I have deemed it important to add to this valuable essay of my friend, Dr. Gulick, the above brief notice of the most terrific and fatal epidemic of variola that has ever been recorded. ELISHA HARRIS.

Rheumatism is a frequent malady among the islanders, as a consequence of their irregular life and extreme imprudence in spending their nights on the ground, and of "their habits of continuing long in the water and exposing their bare bodies to strong currents of wind, when overcome with heat and covered with perspiration."

Dr. Chapin speaks of its "very frequent occurrence, notwithstanding the very prevalent belief that it is almost peculiarly a disease of cold and variable climates, and is rarely met with in warm and uniform climates." He remarks with great justness that—"The constitution becomes so impressible in warm climates, that very slight variations in the atmosphere are as severely felt as the greatest changes with us." And from this prevalence at the Sandwich Islands he infers its presence "at the adjacent islands, and at all places throughout the inter-tropic regions, where the same exciting causes exist." At these islands "the disease is usually mild in its attacks, soon passes off, even without the application of medicinal means, and is seldom followed by severe secondary effects."

Primary derangements of *the Nervous System* constitute but a very small part of their diseases. *Insanity*, as might be expected from their quiet, simple mode of life, is not frequent. Among the females, *Hysterical* tendencies are not marked. *Chorea* is occasionally met with. *Paralysis* is more frequent, and Dr. Lafon attributes it to their long-continued sitting and sleeping on the damp ground, by which, not only their fibrous, but their nervous tissues are affected.

Pulmonary Affections are frequent and important. In an address before the Royal Hawaiian Agricultural Society, the Hon. Luther Severance says:—"If every native would wear a woolen shirt, and sleep at night under a woolen blanket, I think there would be less of asthma and other affections of the lungs, induced as these diseases probably are by exposure to the strong winds, while the pores of the skin are opened by profuse perspiration." (*Transactions of the R. H. A. Society*, Vol. 1, p. 2.)

Chronic Bronchitis is so frequent and universal among the Hawaiians as hardly to receive attention. The mucous surface of their lungs seems to be peculiarly susceptible to external influences. Dr. Lafon, speaking of the "day-break prayer-meetings," says that for the first twenty minutes it was generally scarcely possible to proceed with the religious exercises, from the incessant coughing of the congregation. It was as though each one was under the necessity of expectorating a certain amount of mucus before respiration could be comfortably carried on. The causes are evidently those already so frequently mentioned—their unhealthy exposures both within and without doors.

Catarrhs are of course to be expected, though mild, and generally the result of exposures and sudden alternations of temperature. Dr. Judd remarks:—"The *Influenza* (epidemic catarrh) usually prevails every spring." Dr. Chapin speaks of them as "usually mild in their character, ephemeral in their existence; they easily yield to immediate applications and rarely pass into the more inveterate and fatal stages of pulmonic disease." Some, however, of these epidemics are much more serious, and their effects remain long after their departure. About four years since (1846) an epidemic of this kind prevailed over the group and was in some cases fatal, from untoward complications and bad management. And again in 1848–9 another epidemic arrived as a successor upon the measles, and was more than usually fatal. It would be of some interest to ascertain whether these influenzas have any relation to the direction of the winds, or, as has been suggested, to volcanic exhalations. The remote position of the group is very favorable for the investigation of the causes of disease, especially of the mooted questions regarding the contagious and epidemic character of maladies.

Asthmas are enumerated by writers among the diseases of the Sandwich islanders; but the term is used so indefinitely that little can be learned from the statement. Dr. Judd, speaking of the annoyance from dust, says:—"It is, no doubt, a very efficient cause of the frequent occurrence of asthma among the natives." Dr. Chapin mentions, as a cause of asthma, "a habit, among the chiefs and wealthier portion of the common people, of inordinate eating, amounting even to gluttony," when "their capacious stomachs are distended not less than four or five times a day with truly surprising quantities of fish and poi."

Pneumonia and *Pleurisy* are mentioned: they cannot, however, be called zymotic diseases—they are, rather, accidental.

Croup among the natives is usually fatal. Dr. Chapin mentions its having prevailed epidemically once during his residence there. "Hoapili-wahine, a chief woman of high rank, upwards of seventy years of age, died of this disease in January, 1842." (Jarvis.)

Whooping Cough has been once prevalent, but soon disappeared.

Phthisis Pulmonalis is a very rare disease at the Hawaiian Islands. Dr. Judd says:—"This comparative exemption of a population—which is allowed on all hands to be fast wasting away—from one of the most fatal diseases of the United States and England, affords evidence that the climate is unfavorable to it."

An investigation of the causes of their entire exemption from pulmonary tuberculosis is one of much interest, especially if that disease is to be considered as dependent upon the scrofulous diathesis. The uniformity of temperature is certainly favorable, but why are not the producers of the other varieties of scrofula productive also of this? Is it that, for the development of phthisical scrofulosis, a close impurity of air is generally essential, by its immediate interference with respiration, and so, as it were, by centering upon the lungs in a primary degree the development of the scrofulous diathesis; while, if the glandular system be most impeded in the performance of its functions, through and upon it will the diathesis be principally exhibited in specific scrofula? If this be accepted, the out-door lives which the Sandwich islanders live may be supposed to preserve them from that imperfect respiration, and so, from consumption, notwithstanding the untoward effects of many of their other habits, while the glandular system succumbs before the ready waiting enemy, incapable of receiving such relief and palliation of evil from fresh air, and even from that very exposure being made still more liable.

Foreign residents are completely exempted from such tendencies. Several members of the mission have entered the field with pulmonary affections, who were regarded as doomed to certain and premature death if they remained in this country (the United States), who now enjoy good health, and are entirely free from any abiding symptoms of disordered lungs." (Dr. Chapin.)

The remarks previously made, regarding the adaptation of the Hawaiian climate to persons of phthisical tendencies, are applicable here. The entire absence of Phthisis among the foreign and native inhabitants, with the mentioned instances of cure effected by a residence there, confirm the anticipations we might found on the mild uniformity of the climate.

There is one disadvantage, however, mentioned by Com. Wilkes, namely, "the great difference in the degree of moisture which exists within a few miles." This must be acknowledged a drawback, and though localities may be fixed on, enjoying proper mediums of moisture and heat, it would be difficult to confine a patient closely to them. But let me suggest that the mere fact of considerable moisture is not conclusive against a place as a residence for consumptives, especially if it fall, as it does at these Islands, during the summer season, in brisk refreshing showers, followed by beautiful sunshine, and leaving all nature revived and invigorated.

I repeat, that the Sandwich Islands will, as facilities of travel increase, become one of the places of resort for invalids, especially during the summer season; for the beauty, grandeur, variety and novelty of the scenery will alone be a potent attractive, and the journeyings to enjoy it be efficient remedial agents.

Derangements of the functions of *the alimentary canal* are numerous, and frequently fatal among the islanders. Their irregularities in diet, with their habitual violation of all prudential laws, are causes sufficiently comprehensive.

Diarrhœa and *Dysentery* are common. "Beside the usual exciting causes which prevail in most places, they have an additional fruitful source, in a blind and barbarous practice of using immoderately the most powerful and drastic cathartics. I have known a case in which the average operations of four cathartics, given to disperse dropsy, were twenty-one, the aggregate eighty-four; and another case in which a man, from a fear that he would be sick, took such an enormous dose of the calebash, as to produce a hemorrhagy, which proved fatal within a few hours." (Chapin.)

Hepatitis, with all the other affections of the liver, are seldom met. The climate seems to be proof against that monster of civilized life—"the liver complaint"!! This exemption extends to all who reside there. "The frequent occurrence in hot climates, is ascribed by Dr. Saunders and others to the prevalence of a peculiar miasm in those regions, and if this be true, hepatitis will not be expected to predominate at the Sandwich Islands, where there is no evidence of any miasm whatever. Indeed, hepatic disorders are not merely uncommon there, but they do not appear to be incident to those seas. The Pacific is thronged with American and English whaling vessels, which cruise from three to four years, and, as they change their ground to the north and south of the equator, with the change of the seasons they are continually exposed to the hottest latitudes, and are much of the time in the torrid zone. Of these a large number touch semi-annually at the Islands for supplies, and though my practice among the seamen has been extensive, I have been called to prescribe for only two or three cases of inflammation of the liver, and in no instance have I met with the disease in its acute form. The heat to which the sailors are subjected, during calms at sea, is often intense; and if the existence of hepatic disorders is owing mainly to the close sympathy between the biliary and respiratory organs, the etiology proposed by Dr. Johnson, I certainly ought to have met oftener with it. * * Two or three gentlemen of the mission, who had chronic diseases of the liver when they went to the Islands, have not only spent several years without any exacerbation, but one of them is quite relieved from the complaint." (Chapin.)

"*Worms* in the intestinal canal are not, so far as my observation has extended, of usual occurrence. The children of the mission, who numbered more than sixty, were entirely exempt, and no case of the existence of worms among the native population came to my knowledge. One individual, a native of this country, who had been for several years a resident of the Islands, was affected with ascarides, and this was the only case I met with." (Dr. Chapin.)

Diseases of the Eye are frequent. Blindness is not uncommon. "Ophthalmia, of the purulent form, abounds in every portion of the group, and opaque corneas and thickened coats of the eyes are very numerous. The old and the young are alike affected with this disease; very small children are occasionally met with nearly blind with its effects. I at one time attributed its prevalence to the effects of the clouds of sand, often raised and blown about with great violence by the trade-winds; but finding it equally common in those districts where frequent rains prevent the dust from ever rising, there appeared to be no other cause so active as the trade-winds, which come mingled with salt spray." (Dr. Chapin.)

Cutaneous Diseases are said to be numerous, though the names of varieties are not mentioned, except those of "*scabies*," and a disease called "*poupou*," spoken of by Com. Wilkes. "Though the Sandwich islanders are remarkably fond of the water, and are fastidiously particular in their practices of washing and bathing, they are, nevertheless, extremely filthy and squalid in many of their habits of life. With their beasts and fowls in the same habitation, and not unfrequently on the same mats with themselves, their often-repeated ablutions will be regarded as timely. The kapa, or native cloth, used by the inhabitants, is worn without cleansing, till, having become foul with vermin and dirt, and too ragged to serve longer the purposes of covering or protection, it is lain aside. Hence diseases, induced or exacerbated by such causes, have at those Islands a fruitful soil, and flourish luxuriantly. The *itch* is extremely prevalent, and often assumes a virulence unseen in this country. The pustules sometimes, becoming confluent, are converted into large and troublesome ulcers." (Dr. Chapin.) These details regarding their clothing apply rather to the past than the present—yet they are, no doubt, still too true.

From the Hon. Mr. Wyllie's "notes" I quote the following:—"In a valuable manuscript paper of Dr. Rooke's, to which I have had access, he adds *Puerperal Fever* as very common and very fatal. Excepting that disease, apoplexy, croup, and dropsy, the others are stated to be generally mild, yielding easily to proper care and medical treatment."

The *Therapeutic Constitution* of the Hawaiians is not, so far as I can learn, peculiar, save that their systems seem not as susceptible as ours to influences of a morbific or remedial character. Their life seems not of so high a grade as ours. Their nervous systems are not as fully developed, and are with greater difficulty impressed by external influences. It it this fact which, I think, accounts for their being able to exist, undermined as their constitution has been, and adhering to modes of living which would prove rapidly fatal to the same number of the most robust of the Anglo-Saxon race; for it will be remembered, that their lives of exposure are very different from those exposures connected with the incessant activity and vigilance incident to journeys and heroic exploits, which may ever be encountered with impunity.

THE MATERIA MEDICA OF THE HAWAIIAN ISLANDS.

This portion of my essay is meagre. It is with difficulty I have collected that which I give. How desirable that men of medical intelligence should investigate and report on this and the several other points of interest connected with the climate and diseases of Polynesia.

I will first notice such of the Materia Medica and remedial practices, originally employed by native Hawaiians, as I am informed of, and will then enumerate those other indigenous Materia Medica, not, so far as I am aware, included in the native Hawaiian Dispensary; and will thirdly notice such medicinal vegetables as have been introduced since the discovery of the Islands, enumerating both the unofficinal and officinal.

And *first*—To pass unnoticed the Materia Medica of a savage people, simply because employed by savages, is unreasonable and impolitic; for, have not all medicines been first employed empirically—has not our science been built up from empiricism—and have not the great body of our vegetable Materia Medica been first used by ignorant and even savage empirics? Might it not be possible, by a complete canvassing, to learn something even from Hawaiian empiricism?

The *Arum esculentium* is a plant very nearly allied to the arum maculatum and arum tryphillium in all its external habits and properties, and probably, like them, possesses a "property of stimulating the secretions, particularly those of the skin and lungs." (U. S. Dispensatory.) It is the principal article of diet among the Hawaiians. The heat of the oven dispels its peculiar acrid principle and renders it a very nutritious and valuable article of diet, had in great esteem by foreigners, but especially by the natives. The acridity is probably reduced by cultivation, but a very considerable portion of it is still retained. Says Dr. Chapin:—"It is, when raw, very styptic and acrid, and the skin of the root is used by the natives in the cure of dysenteries and intestinal hæmorrhages."

The *Cucurbita lagenaria*, or gourd, is used as a purgative. It is, in its medical properties, allied to several of the cucurbitacæ, particularly to the cucumis colocynthis. "The pulp of the root is used," says Dr. Chapin, "and in large doses it is terribly drastic. The inordinate doses given by the natives sometimes produce dysentery, rapidly fatal." Dr. Judd relates the case of a woman purged to death with this article by a native physician for an imagined disease. "About four feet of the green running vine of the bitter calabash, or gourd, thirty-two of the hollow stems which support the leaves, and about one ounce of the dry pulp, next the shell, of the dried gourd were pounded together on a board and the juice mixed with about three pints of water." "It is used by them successfully in dropsies. I once knew a native, with abdominal dropsy, cured by one of his own physicians with this article, after he had been treated unsuccessfully by foreign skill." (Dr. Chapin.)

A variety of *Ipomea* is mentioned by Dr. Chapin. "The roots are used by the natives as an emetico-cathartic. I tried it somewhat, and found it had efficacy; but the doses requisite were so large and the trouble of preparing it such, I abandoned it." I am utterly unable to give the specific title. It is questionable whether its medical powers have been fully ascertained.

The *Aleurites triloba*, or candle-nut, is one of the articles of the Hawaiian Dispensary. "The kernels of these are stuck, one over another, like beads, upon a fibre of cocoa-nut leaf, a foot long, and, containing a considerable proportion of inflammable oil, they give sufficient light for ordinary purposes, the flame communicating downward till the last piece is consumed. Sometimes five or six such strings, two yards in length, are wrapped together in a leaf of banana, and carried before the king, as flambeaux, when he travels by night." (Tyerman and Bennet's Journal.) Dr. Chapin remarks:—"I know it to be used as a cathartic, but never experimented with it myself." An oil extracted from this nut forms an article of export for painting—may it not have available medicinal properties?

The *Piper methysticum*, called "*ava*" by the Hawaiians, is one of the most important of their indigenous Materia Medica. From it they prepared a narcotic drink, esteemed throughout Polynesia. The bark of its stem is possessed of the peculiar properties of the plant, but it is the root which was principally used by them. "They prepared it for use by mastication. A person chews it thoroughly, and ejects it with the accumulated saliva into a dish, in which state it is drunk by the patient. Most of their medicines they prepare in the same manner." In continuation, Dr. Chapin says to the author:—"I supposed it might be serviceable as an anodyne: I gave it repeatedly in powder. It did not seem to possess narcotic properties, and after a number of trials with it I gave it up. The natives, as they said, used it to cure cutaneous diseases, by producing desquamation of the cuticle. They give it daily in such quantities as at length to accomplish the object. I think the article deserves further trial." Mr. Bingham informs me that "the juice is highly valued, and was much used both as a luxury and as a medicine, as alcohol still is in wiser countries. A singular effect of taking a course of ava was the cracking and coming off of the cuticle over the whole body of the patient, with which, it was maintained, the system parted with maladies." Mr. Jarvis says:—"Its effects were very pernicious, covering the body with a white scurf, * * * inflaming the eyes and causing premature decrepitude. It was also taken as a medicine, and was supposed to be an effectual remedy for corpulence." Mr. Ellis speaks of the "burning effect and unpleasant taste of the ava." A few years since, a gentleman, long a resident of the Islands, proposed exporting it to the United States, and there manufacturing of it some nostrum—which might, no doubt, have become as popular as Townsend's Sarsaparilla! Its medicinal properties are, perhaps, allied to those of the *Piper augustifolium*, or Matico, of which the U. S. Dispensatory says:—"Its most useful internal application is, probably, as an alterative stimulant to the diseased mucous membranes."

The Dispensatory refers to an article by Mr. Morson, on the *Ava*, in *The Pharm. Journal and Transactions*, Vol. 3, p. 472, which I have not been able to obtain.

The Vapor of Hot Water was, it seems, employed by the Hawaiians, and though a practice not peculiarly their own, the mode of administration, as related by Dr. Chapin, may amuse and instruct. "Prolapsus uteri they relieved by steaming over heated stringent herbs. Febrile diseases, rheumatisms, and many others, were treated by steaming. The patient was wrapped in green leaves, freshly picked, and laid on a bed of heated stones. If he writhed under the intensity of the heat he was held still by attendants. If he died, the doctor and all ran away!" How striking the similitude between the Hawaiian and the American quack, both in the mode of practice and in manner of escape!

But their characteristic mode of alleviating pain is the *Lomilomi*—a systematic kneading, and pressing, and squeezing, and rubbing, employed in all cases of fatigue or pain, where not intolerable. To appreciate fully the virtues of the practice, one must himself be operated on by a practical Hawaiian. It is, in many cases, most admirable. "People were especially trained to lomilomi; a kind of luxurious kneading or shampooing, and stretching, and cracking the joints, which seemed completely to renovate the system, when suffering either from a surfeit or fatigue. The fatter the chiefs, the more they required the operation." "The most delightful of the traveler's comforts is the lomilomi. It is something between a squeeze and a pinch, which none but a native knows how to perform; commencing gently, and increasing in violence as they proceed, every limb in the body is subjected to this treatment. It is, as a friend terms it, a physical regeneration. (Jarvis.)

A few articles of our Materia Medica, though not employed by the Hawaiian practitioner, are found indigenous upon the Islands, and should be mentioned. The number might, no doubt, be extended.

Lime (calx) is readily prepared by the calcination of coral.

Nitre (potassæ nitras), of which J. G. Sawkins remarks, it "is not found pure, so far as I can learn, on this group." (*Agricultural Report*, Vol. 1, No. 2.)

Sulphur, from about the crater of Kilanea.

Common Salt (sodii chloridum) is manufactured in considerable quantities from the ocean, and is also collected from the salt lake of *Alia-packai.* During the year ending June 30th, 1851, 5,332½ barrels of salt were exported. Mr. Sawkins remarks of the Island salt, that it is "rarely pure, on account of the sulphurous gases of the neighboring active volcanoes."

Glauber's Salt (sodæ sulphat.) is found at Kilanea, and has been occasionally used.

Sponges (spongia officinalis). They are, however, a very coarse, inferior article.

The Sorrel (rumex acetosa).

Arrow-root (tacca oceanica). From July 1st, 1850, to June 30th, 1851, inclusive, 16,780 pounds of prepared Arrow-root were exported. I extract the following from The United States Dispensatory:—"A variety of Arrow-root has been imported from the Sandwich Islands. It was supposed to be procured from the root of *Tacca pinnatifida*, which grows abundantly in Tahiti and other islands of the South Pacific; but Mr. Nuttall, during his visit to the Sandwich Islands, found that it was the product of another species of Tacco, which he describes under the name of Tacca oceanica. (*Am. Journal of Pharmacy*, ix., 305.) It is said that a similar product is obtained from Tacca pinnatifida, growing in the East India province of Arracan."

The Sugar Cane (saccharum) is by far the most important of the indigenous Materia Medica, in a commercial aspect. The manufactured *Sugar* which was exported, amounted in 1849 to 653,820 pounds, and in 1850 to 750,238 pounds. The exported *Molasses* (sacchari fæx) amounted in 1849 to 41,235 gallons, and in 1850 to 53,855 gallons.

A large number of the "Flora Medica" have been introduced since the discovery of the group. Quite a number of them are thoroughly naturalized; and some are already of great importance among the exports, though in every such instance the article is not only a medicine, but also a food. Without question, the Sandwich Islands will yet produce for export many of the Materia Medica proper. From the paucity of my facts, I can do little more than give a mere list of these introductions, and even this will be defective.

I will first mention the *unofficinal* articles.

Coffee (coffea arabica). This was first permanently introduced by Lord Byron in 1828. In 1849, 28,231 pounds of coffee were exported, and in 1850, 208,428 pounds. (Cheever's *Sandwich Islands.*) It is of an excellent quality.

Indigo (indigofera). In many parts of the Islands it now grows wild. From experiments made by the writer many years since, the Sandwich Islands indigo may be pronounced a good variety—probably quite as good, in its medicinal and economical and manufacturing properties, as any in the markets of the world.

The Touch-me-Not (impatiens noli-me-tangere) grows luxuriantly.

Onions (capa). They are greatly relished by the natives as a condiment, and are raised by them in considerable quantities. During the year ending June 30, 1851, 3,759 barrels were exported.

The Irish Potatoe (solanum tuberosum). Of these there were exported, in 1849, 858 barrels, and in 1850, 51,957 barrels.

Indian Corn, or *Maize* (zea mays) grows well; is not extensively raised. During the year ending June 30, 1851, five barrels were exported.

Indian Rubber, or *Caoutchouc* (syphonia cahuchu, or S. elastica). A very useful tree, which it is to be hoped will be rapidly multiplied on the Islands.

Rice (oriza sativa). As yet it is only raised experimentally, but it may become an important production.

The Pumpkin (cucurbita pepo). *The Muskmelon* (cucumis melo). *The Cucumber* (cucumis sativus).

Of *officinal* plants, the following imperfect list will serve our purpose of exhibiting the admirable adaptation of the soil and climate to the production of many choice articles, and of indicating how independent of other countries, as to their Materia Medica, these Islands may become.

The Castor Oil (ricinus communis). This may be said to be effectually naturalized. In many places it grows, becoming a perennial. As yet no considerable use is made of it. There may, however, come a time when Castor Oil shall be manufactured there, not only for home consumption, but for export from the Islands—a rival even to "the cold-drawn East India oil."

Mustard (sinapis) grows wild over considerable tracts. I am not aware that it is at all used, even as a condiment, though, no doubt, possessing requisite strength. Mustard is even imported for the tables of foreign residents.

The Pomegranate (punica granatum) has been brought to maturity on the Sandwich Islands, and is, no doubt, still cultivated by those of horticultural tastes. The rinds of the fruit (malecorium), and the flowers (balaustines), may yet be valued among the rural inhabitants for their astringent and tonic properties; though, if it be true, as before stated, that verminous affections are rare, the famed properties of the bark of the root may not be called into requisition.

The Stramonium (datura stramonium), introduced many years since, now propagates itself, and was, about Honolulu, the nuisance of my boyish days. This powerful narcotic, so identical in its effects with belladonna, though by no means to be employed as a popular remedy, may yet be made valuable to the Island practitioner.

Several members of the genus *Citrus—The Orange* (c. aurantium), *The Citron* (c. medica), *The Lemon* (c. limonium), *The Lime* (c. acris)—which are, I believe, all introduced, form an important group. The orange was first planted on the Islands by Capt. Vancouver, in 1792. As a fruit, they have already became quite an article of export. In 1849, 10,000 were exported, and in 1850, 139,500. I know not why the Sandwich Islands may not produce the much sought orange flower water (aurantii floris aqua), used both in the toilet chamber and the apothecary's shop; and if the flowers of the Seville or bitter orange (citrus vulgaris) be preferable, it can, no doubt, be added to the Island Flora. The oil, or neroli (aurantii oleum) will, no doubt, possess as fine a scent as that of France or Italy. Three hundred and four gallons of lime juice (limonus succus) were exported in the year ending June 30th, 1851.

Cotton (gossypium). This article, so useful in burns, grows well, and is of good quality. It has not become an article of export.

Wheat (triticum).

Oats (avena sativum). These two grains, officinal in the Pharmacopœia, and of such noted importance in other departments of civilized life, are every year becoming more important articles of culture for home consumption.

Coriander (coriandrum sativum). *Fennel* (feniculum vulgare). *Anise* (pimpinella anisum). *Horseradish* (cochlearia amoracia). *Cayenne Pepper* (capsicum). *Black Pepper* (piper nigrum). *Rhubarb* (rheum). *Lettuce* (lactuca sativa). *Sage* (salvia). *Carrots* (daucus carota). *The Broom* (cystisus scoparius). *Ginger* (zingiber). *Hops* (humulus lupulus). *Roses* (rosa galica). *Poppy* (papaver somnifera).

Aloes (aloe). I think I am correct in mentioning this, though as yet it is only cultivated for ornament.

The Tamarind (tamarindus Indica) has long been introduced, and is a very valuable tree for the tropic zone.

Tobacco (nicotiana tabaccum) has been long cultivated on the Islands, and promises to become a very important export.

Figs (ficus carica) are being more and more cultivated, and may become an important export.

The Grape (vitus virifera) grows well in some localities, and it is now a subject of active discussion and experiment, whether it may not be extensively cultivated. Should the anticipations of some be realized, the Hawaiian Islands are to become as noted for their wines as Portugal or Madeira.

Thus, to repeat Edmund Burke's witticism, the Sandwich Islands producers are aspiring to the rights of kings, viz.: to the "*jus de vinum.*" While the *Grapes* are cultivated for luxurious contributions to the table, and while the *Raisins* are dried for the home and foreign markets of future days, as medical men, we may "hope against hope," that *Hawaiian Wines*, with all their variety and excellence, shall be manufactured for the Materia Medica rather than for the Materia Alimentaria.

References.—I take pleasure in acknowledging my authorities:—*Journal of* TYERMAN & BENNET; *Polynesian Researches*, by ELLIS; JARVIS' *History of the Sandwich Islands; Narrative of the United States Exploring Expedition; Report of the Physicians of the Sandwich Islands Mission, in June*, 1839; *Meteorological Observations*, by T. C. B. ROOKE, Esq., *in Hawaiian Spectator*, Vols. I. and II.; *Meteorological Observations*, by Rev. E. JOHNSON; *American Journal of Science and Arts*, as copied in BINGHAM'S *Sandwich Islands;* Rev. A. BISHOP *on the Decrease of Population in the Sandwich Islands, Hawaiian Spectator*, Vol. I., p. 52; *Climate of the Sandwich Islands*, by G. P. JUDD, M. D., *Hawaiian Spectator*, Vol. I., No. 2; *Decrease of Population on the Hawaiian Islands*, by DAVID MALO, *Hawaiian Spectator*, Vol. II., p. 121; Rev. HENRY T. CHEEVER'S *Sandwich Islands;* Hon. R. C. WYLLIE'S *Notes on the Hawaiian Islands; Transactions of the Royal Hawaiian Agricultural Society*, Vol. I., Nos. 1 and 2.

In addition to the above works and essays, which have been directly quoted, the following may also be named as having lent more fullness and accuracy to my statements, regarding the climate and causes of depopulation:—DIBBLE'S *History of the Sandwich Islands;* BINGHAM'S *Sandwich Islands;* SIMPSON'S *Sandwich Islands*, and CHEEVER'S *Island World.* I am also indebted to Dr. CHAPIN'S publications and to his personal kindness in furnishing me facts not otherwise accessible:—No. 39 of *The American Journal of Medical Science*, as republished in the *Hawaiian Spectator*, Vol. I., p. 243; *Boston Medical and Surgical Journal*, Vol. XLII., Nos. 3 and 5;

Letters to the Writer, of January and February, 1850. These form an array of names one may be proud to mention, and they certainly demonstrate that my native Islands are as favorable for the development of mental as of physical health and vigor. Nor is there any rashness in affirming, that the "literary capabilities" of the Hawaiian Islands have not yet been fully developed—a fact most gratifying to every Hawaiian.

ART. II.—*Examination of the Rumex Crispus, or Yellow Dock.*

By J. H. SALISBURY, M. D., New York.

General remarks.—This species belongs to an extensive family of plants, familiarly known as sorrel and dock, inhabiting Europe, the temperate parts of Africa, and the United States. Several plants of this species have acid leaves, owing to the presence mainly of oxalic acid. Those, as a general rule, which have the most of this acid, are distinguished by the commoner name of sorrel; some of which are highly esteemed in many places, as culinary vegetables. They are cooling, and somewhat diuretic, and are not considered injurious, unless too freely and frequently eaten. A small portion of oxalic acid is found in many of those known by the common name of *dock;* but in these it is principally in the petioles and stalks, instead of the leaves. Tannic acid is found in the roots and seeds of many of the species, and it is to this acid that they owe their astringency.

The Rumex Crispus, which is the subject of this essay, is considered by most authorities as a native of Europe, having been introduced into the United States. Griffith, however, in his medical botany, says it is a native of this country. It is very common, inhabiting not only waste places, but often, to the great annoyance of the farmer, taking possession of and literally overrunning his best fields. When it has once thoroughly obtained a foothold, it is not easy to eradicate it. It is very tenacious of life, and will often take root and grow, after having been exposed for several days to the direct rays of the sun.

Description and composition.—The flowers are numerous, in a large panicle of axillary racemes, made up of half whorls, spirally arranged. Calyx, 6 parted, the three outside sepels are connected at their base, short, rugose, filiform, alternating with the three inside ones which envelope the seed, and which are much larger than the outer ones, and irregularly denticulated on their margins. One of these has a large tubercle on its back, filled with a starchy, astringent substance, like the seed; the others have an imperfect tubercle. The seeds are astringent like the root, but less bitter, containing considerable tonic acid.

100 grains of the seed, pedicels and calyces, taken when the seeds were in the milk, gave, of

Water,	77·060
Dry matter,	22·940
Ash,	·760
Organic matter,	22·180
Organic matter, calculated dry,	96·687
Ash, calculated dry,	3·313

100 grains of the ash gave the following results :—

Carbonic acid,			15·660
Silicic acid,			3·000
Phosphates and Silicates,....	26·40	Phosphate of iron,	·800
		Lime,	4·838
		Magnesia,	·760
		Silicic acid,	·050
		Phosphoric acid,	19·952
Lime,			4·558
Magnesia,			3·120
Potash,			16·309
Soda,			17·495
Sodium,			4·206
Chlorine,			6·414
Sulphuric acid,			·532
			98·694

In the vicinity of New York, this plant flowers in June' and the seed ripens the last of July and the first of August'

The leaves have a slightly bitter, pungent, astringent taste, with an odor, when bruised, of sorrel. They contain a small amount of tannic and oxalic acids. They are lanceolate, acute, slightly waved, particularly along the margins, radical ones large, having very long petioles.

Organic analysis of the fresh leaves.

100 grains of fresh leaf-blades gave, of

Starch,	none.
Chlorophylle, wax and resinous matter,	·755
Albumen,	·030
Caseine,	·200
Dextrine or gum,	·920
Extractive matter, very bitter, slightly astringent, odor somewhat like that of tobacco, nauseating,	4·270
Fibre, or lignin,	9·985
Per cent. ash in fibre, 8·053, strongly alkaline.	
Total dry matter,	16·160
Water,	85·520

The above calculated dry.

Starch,	none
Chlorophylle, wax and resinous matter,	4·680
Albumen,	·185
Caseine,	1·238
Dextrine,	5·693
Extractive matter,	26·424
Fibre or lignin,	61·789
	100·000

The petioles are quite sour, with free oxalic acid. 100 grs. of the fresh leaves gave, of

Water,	94·660
Dry matter,	5·340
Ash, strongly alkaline,	1·030
Organic matter,	4·310
Ash, calculated dry,	19·288
Organic matter, calculated dry	80·712

100 grs. of fresh leaf-blades gave, of

Water,	85·700
Dry matter,	14·300
Ash, very saline,	2·180

Organic matter,	12·120
Ash, calculated dry,	15·245
Organic matter, calculated dry,	84·755

100 grs. of the ash of the leaf-blades and petioles gave the following:—

Carbonic acid,			15·400
Silicic acid,			3·900
Phosphates and Silicates,	24·00	Lime,	·020
		Silicic acid,	·050
		Magnesia, peroxide of iron and phosphoric acid,	23·830
Lime,			1·633
Magnesia,			·880
Potash,			15·613
Soda,			26·880
Sodium,			3·889
Chlorine,			5·920
Sulphuric acid,			1·477
			99·492

100 grs. of fresh petioles gave, of oxalic acid, ·8363 of a grain—being almost one per cent. of acid.

Stalks from 18 to 42 inches high, woody, smooth at base, but becoming striated as you ascend. Slightly acid.

100 grs. of the ash of the stalk gave, of

Carbonic acid,			14·800
Silicic acid,			2·800
Phosphates,	21·70	Silicic acid,	·050
		Lime,	4·953
		Magnesia,	·850
		Phosphate of iron,	1·100
		Phosphoric acid,	14·747
Lime,			2·590
Magnesia,			2·040
Potash,			17·430
Soda,			22·753
Sodium,			3·368
Chlorine,			5·130
Sulphuric acid,			5·085
			99·696

100 grs. of fresh stalks gave, of

Water,	83·800
Dry matter,	16·200

Ash,	1·480
Organic matter,	14·720
Ash, calculated dry,	9·512
Organic matter, calculated dry,	90·488

Root perennial, fusiform, yellow, having from three to four rows of rootlets extending its whole length, slightly spiral in their course, covered with a loose epidermis, easily separated, and having but little taste. Inside of root less farinaceous than outside, and containing less of the pungent, bitter, astringent principle. Main root not as active as the small divisions. It consists of four distinct parts,—the medulla (or pith), the woody portion, the cortical layer, and the epidermis. The pith is a light, spongy mass of cellular tissue (in very old roots it becomes woody), and is often nearly tasteless. 100 grs. of pith gave, of

Water,	78·225
Dry matter,	21·775
Ash,	1·747
Organic matter,	20·028
Ash, calculated dry,	8·028
Organic matter, calculated dry,	91·976

The woody part is fibrous and tough, and contains less of the active principles than the cortical layers. It contains in 100 parts:—

Water,	72·779
Dry matter,	27·221
Ash,	1·139
Organic matter,	26·082
Ash, calculated dry,	4·184
Organic matter, calculated dry,	95·816

The cortical layer is easily separated from the woody portion, adhering to it firmly only in the line of the rootlets, and is fleshy and tender, and contains more of the active principle than any other part of the plant. 100 grs. of this layer, with the epidermis attached, gave, of

Water,	70·809
Dry matter,	29·191
Ash,	1·398
Organic matter,	27·793
Ash, calculated dry,	4·789
Organic matter, calculated dry,	95·211

The epidermis is loose and thin, and easily separated. Numerous medullary rays extend from the pith into the cortical layer.

Organic analysis of a Root three-quarters of an inch in diameter and ten inches in length.

100 grs. gave the following results :—

Starch,	5·987
Albumen,	1·431
Caseine,	·226
Dextrine, or gum,	2·024
Extractive matter, (this contains a trace of oxalic acid and considerable tannic, very bitter and astringent,)	5·184
Fibre, or lignin,	14·228
Per cent. ash in fibre, 1·998—strongly alkaline.	
Total dry matter,	29·080
Water,	70·320
	100·000

The above, calculated dry :—

Starch,	20·600
Albumen,	4·982
Caseine,	·777
Dextrine, or gum,	6·690
Extractive matter, oxalic and tannic acids,	17·856
Fibre, or lignin,	49·095
	100·000

100 grs. of the root of another plant gave, of

Water,	79·363
Dry matter,	20·637
Ash,	1·321
Organic matter,	19·316
Ash, calculated dry,	6·401
Organic matter, calculated dry,	93·599

100 grs. of the ash gave the following results :—

Carbonic acid,		16·000
Silicic acid,		·500
Phosphates, 26·20,	Silicic acid,	·060
	Lime,	4·220
	Magnesia,	4·250
	Phosphate of iron,	·400
	Phosphoric acid,	17·380

Lime,	3·827
Magnesia,	7·620
Potash,	14·723
Soda,	22·480
Sulphuric acid,	4·502
Chlorine,	3·898
	99·860

In an agricultural light, this may be considered as a very exhausting plant to the soil, as the analysis will show, if removed every year from it. The ash of all parts of the plant is made up principally of phosphates and alkalies, with considerable chlorine. The root and stalk contain a respectable quantity of sulphuric acid, while the leaf-blades, seeds, pedicels, and petioles, contain but little. The root is rich in magnesia, while but a moderate quantity is found in other parts. About one-fifth of the dry matter of the root is starch. Calling the extractive matter a nitrogenous body, from 30 to 40 per cent. of the dry matter of the whole plant consists of nitrogenous compounds. Excluding this amorphous body, from 12 to 17 per cent. is nitrogenous.

Comparative view of the Water, Inorganic and Organic Matter of different parts of the Plant, with the Ratio of the Parts; Plant taken when the seeds were in their Milk.

Parts of Plant.	Fresh Plant.				Same Plant deprived of Water.	
	Ratio of parts.	Water.	Inorganic Matter.	Organic Matter.	Inorganic Matter.	Organic Matter.
Petioles	14·409	94·66	1·03	4·31	19·288	80·712
Leaf-blades	34·552	85·70	2·18	12·12	15·245	84·755
Stalks	25·649	83·80	1·48	14·72	9·512	90·488
Root	17·291	79·363	1·321	19·316	6·401	93·599
Seeds, pedicels, and calyces	8·069	77·060	·760	22·180	3·313	96·687
Medulla of root	6·40	78·225	1·747	20·028	8·024	91·976
Cortical layer & epidermis of root	52·00	70·809	1·398	27·793	4·789	95·211
Woody portions of root	41·60	72·779	1·139	26·082	4·184	95·816

In the plant deprived of water: at this stage of its growth, the petioles stand first in the amount of inorganic matter, the leaf-blades second, the stalks third, the roots fourth, and the seeds, pedicels, and calyces contain the smallest proportion. In the fresh plant, the proportion of inorganic matter is greater in the leaf-blades, stalk, and root, than in the petioles. It will be seen that, in the root, the pith contains nearly twice as much ash as either of the other parts; the cortical layer stands next, and the woody portion has the least. The woody layer, into which the rootlets discharge themselves, is filled with large ducts, arranged between the medullary rays for transmitting the juices of the plant.

The petioles contain, besides about one per cent. of oxalic acid, a small amount of tartaric and tannic acids; the root has a slight quantity of acetic, tartaric, and gallic acids, with considerable tannic acid. The tannic is that variety which gives with the salts of the peroxide of iron a greenish color.

There is a crystalline principle, in small quantity, in the root, which conducts itself somewhat like gallic acid. I have not yet examined it sufficiently to satisfy myself whether it is this or some other body. It shows itself in small acicular crystals, taking often a stellated arrangement. They are readily soluble in water, less readily soluble in absolute alcohol, and sparingly soluble in ether. They are found in the water and spirit extracts, from which they can be separated in a tolerably pure state by sulphuric ether, which slowly dissolves the crystals without taking up much of the amorphous extractive matter. The crystals dissolve in sulphuric acid, and the solution, raised to a temperature of 200°, is changed to a light amber color. The examination of this body will be resumed at the earliest opportunity.

Riegel found in the root of the Rumex obtusifolius a peculiar principle, which he called *rumicin*, and which bears a close resemblance to *rhabarbarin*, one of the active principles of rhubarb. The crystals observed in the R. crispus may be identical with the rumicin of the R. obtusifolius.

The root also contains a small amount of sugar and a slight quantity of an oily resinous body.

Uses and Medical Properties.—The leaves are sometimes eaten for greens. They are somewhat laxative, and form an excellent diet in scorbutic complaints. The roots contain a yellow dye, and are said to be sometimes used in coloring. The dye, on exposure to the atmosphere for some time, changes into reddish yellow color.

Though its species is not officinal, yet it has enjoyed, at different times, considerable reputation as a medicine. Its medical properties are those of an astringent and a mild tonic. In this respect it has some resemblance to rhubarb. It is supposed to possess an alterative property, and has been employed in decoction and ointment in scorbutic disorders and cutaneous eruptions, and has attracted some attention in the treatment of itch.

The powdered root has been recommended as a dentifrice in cases of spongy gums. Recently it has been employed quite extensively in syrups and patent medicines.

It yields its active properties to water and alcohol. The infusion or decoction is of a light yellow, and the tincture of a dark yellow color, (the latter takes up nearly all the coloring matter,) with an odor of the root and an excessively pungent bitter taste. It requires several fresh additions of water or alcohol, before the active properties can all be abstracted. The residue, after suffering maceration, is inodorous, and almost tasteless. In several trials of this kind, it was found necessary to add water or alcohol four or five times, keeping the whole, after each addition, briskly boiling for ten or fifteen minutes, before the bitter astringent principles could be all taken up.

On subjecting the green root to a temperature of 212°, in a partly-closed vessel, it turns to a dark brown color, and gives off a very strong pungent odor like that of the root. The same odor, but less intense, is given off from it when boiled in water or alcohol. By long-continued boiling, the pungent bitter properties become greatly diminished, in consequence of their volatility. They can be distilled over with water, giving to that liquid the odor of the root, and a light yellow color. A yellowish gummy mass remains on evaporating at a low temperature, which I have not had time to examine further. The medicinal virtues of the root, probably, depend in a great measure upon the volatile matter; if so, subjecting it to protracted heat, in any way, must tend to diminish its activity as a medicine.

I have not yet succeeded in obtaining an extract as bitter as the decoction at the commencement of the evaporation. The bitter principles seem to escape during the evaporation of the liquid, leaving a residue which is less bitter than the solution started with, but more nauseating. The examination of this plant will be continued.

ART. III.—*Perineal Section for Stricture of the Urethra.* By FREDERICK D. LENTE, M. D., Surgeon to the West Point Foundry.

FOR some time past, the question as to the appropriate treatment of the different varieties of stricture of the urethra has been much discussed by the British surgeons, and no small amount of acrimony has occasionally been exhibited by more than one distinguished surgeon in the advocacy of his favorite practice. But, in reading, in the January number of the London *Lancet* (American edition), the reports of some cases occurring in King's College Hospital, and the clinical remarks thereupon, we were much surprised at the fact, made apparent in those remarks, of the great infrequency of the operation of the perineal section in the metropolitan hospitals, and of the entire rejection of that operation, as impracticable, in those cases of stricture where no instrument can be passed into the bladder as a guide.

It is well known that Mr. Syme, of Edinburgh, never performs the operation which has—though, in our opinion, for very insufficient reasons—obtained his name, without first introducing a guide *into the bladder*, which he insists can *always* be done, there being, in his opinion, no such thing as an *impermeable* stricture. Mr. Fergusson, in remarking upon the hospital cases above alluded to, asks:—"Can the same operation (perineal section) be performed when no instrument will pass?" We are surprised, we say, at this, for the reason that the perineal section, both with and without a guide passed *through* the stricture, has been by no means an uncommon operation in New York city for years past, reports of its successful performance, both in hospital and private practice, having been repeatedly published in the various journals and in the proceedings of medical societies. The surgeons of the New York Hospital were in the habit of performing it at least twenty years ago.

For distinguished British surgeons thus to pass over in silence these important achievements of American surgery, is to manifest either an inexcusable ignorance of foreign periodical literature, or an equally inexcusable prejudice, or a want of confidence in the reports of their transatlantic brethren. It is not the purpose of this communication to seek to enlighten our American readers on the subject, who are most of them, no doubt, familiar, or ought to be, with the merits of an operation now so well established among us; but we hope that, by some chance, it may find its way to the eyes of those on the other side of the Atlantic who appear to be less fortunate. In the *Transactions of the American Medical Association*, 4th vol., 1851, and included at p. 330, in an article furnished by the author of this paper, entitled, "*Surgical Statistics of the New York Hospital*," is a table embracing twenty-seven cases of this operation, which we take the liberty of incorporating into this article. Many of these cases occurred during our connection with the Hospital, from 1847 to 1851; and besides these, we have assisted at several private operations of the same character. Most of the latter were performed by Prof. A. C. Post, formerly surgeon to the New York Hospital, who has had an unusual number of these cases. Some of these were of the most unfavorable nature, abscesses, fistulas, broken-down constitution, complicating them. In one case, the patient was quite an aged man, the stricture being the result of an injury, and yet, in only one instance, during our connection with him as pupil and assistant, did a fatal result occur;

and this was the case of a hospital patient, a man of very dissipated habits, with a constitution completely shattered, in consequence, and with abscesses and *fistulæ in perineo.* (Case 22d of the Table.) We subjoin the following extract from a letter recently received from Dr. Post, for which liberty we must beg his indulgence, as it was written in haste, and intended only for our private information, and not for publication here:—"In private practice, I have performed the operation in two old cases of stricture, in which retention of urine had occurred, and in which life was in imminent danger. In both of these cases, the general health had long been seriously impaired, in consequence of the obstruction to the free evacuation of the bladder. In both, a complete and radical cure was effected, the patients having enjoyed excellent health for a number of years afterwards. There is a gentleman of my acquaintance now in this city, on whom a similiar operation was performed by Dr. Cheesman about ten years ago, with like success. I am also familiar with a case in which Dr. Buck operated, a number of years ago, in which a satisfactory result was obtained. Several years ago, I performed the operation on a gentleman from Long Island, who had injured his perineum by falling across a fence. About a week after the injury, entire retention of urine having occurred, and the stricture being so close that I could not pass any instrument through it, I performed the perineal section with complete success, and the patient continues to enjoy good health." In one of Dr. Post's private cases, mentioned by him, a fatal result occurred: in this also, the stricture and subsequent retention were the result of a fall across a fence. The patient was a boy fourteen years old; the perineal section was successful, but subsequent difficulties which arose, and under which the patient suffered for more than a year, caused his death.

We allude to the almost uniform success of this operation in our country, as far as our knowledge of it extends, because, in a report of several cases at King's College Hospital, in the January number of the *Lancet*, it is remarked that, by many surgeons, it is regarded as a very fatal operation, Mr. Syme, on the contrary, having had great success. Mr. Lee, who has recently performed the perineal section without a guide passed *through* the stricture (the first instance in London, it would seem), asks, in a clinical lecture on the subject:—"How are we to account for such different results in the practice of various surgeons of equal skill?" And he answers by saying that, in his opinion, it is owing to the fact that all the strictures, upon which Mr. Syme has operated, have been situated "*anterior to the membranous part of the urethra*," and that therefore he did not wound the deep perineal fascia. Now, in most cases of bad stricture, according to our experience, the obstruction has existed *in* the membranous part of the canal; sometimes there have been two strictures in this portion. In almost all the cases included in the table, the stricture existed in this part of the urethra.

The operation of external division without a guide is looked upon, in the New York Hospital, as so practicable and so successful, though certainly, at times, one of the most annoying and difficult of operations, that, in the cases of obstinate retention of urine admitted into the institution during our connection with it, where the introduction of any instrument was found to be absolutely impracticable, the practice of puncturing the bladder was never once resorted to, but relief was always attempted by the perineal incision. In the London hospitals, on the contrary, it would seem that the operation of puncture is generally preferred. Mr. Hilton, surgeon to Guy's Hospital, says that twenty or thirty such cases have occurred there during the past few years, and reports three cases himself in one number of the *Lancet;* in one of which, the catheter having slipped from the opening (into the rectum), the operation was necessarily repeated *de novo* on the succeeding day: all of these three operations were successful. The operative procedure, in cases where the obstruction is impassable, is briefly this. The patient having been secured in the usual position, a medium-sized catheter or sound is passed down to the stricture and kept in position by an assistant; the incision is then carried down in the median line to the end of the instrument, which is thus exposed; it is then continued downwards towards the posterior end of the stricture (which is usually of some length), and the anterior point of that part of the membranous portion, still unobstructed, and generally *distended* with urine, diligently sought for. This constitutes the only difficult part of the operation, and may occupy from five minutes to an hour or more; generally, from five to fifteen minutes, however, have sufficed to discover it. As soon as a fluctuating point is perceived, either by the touch or by an experimental incision in the proper direction, an opening is made with a sharp-pointed bistoury, a director introduced, and then the end of the instrument previously introduced through the distal portion of the urethra. It has been the usual custom to retain a *silver* instrument in the canal, secured by an appropriate bandage, as being the most cleanly. This is removed from time to time, and cleaned. In some cases, when the knife or director has been inadvertently removed from the posterior part of the divided urethra, after all the urine has been evacuated, and before the catheter has been passed into the bladder, it has been extremely difficult to find the opening again, and thus to complete the last step of the operation; especially in cases where the anatomical relations of the parts have been disturbed by the existence of abscesses and fistulous canals.

Regarding the question, so much mooted on the other side of the Atlantic, as to the possibility of passing an instrument in *every* case of stricture, we have only to say for ourselves, on this side, that, in many cases, our best surgeons, after the most persevering and gentle trials with all kinds of instruments, are sometimes completely foiled, and these are the cases to which the operation under discussion has been applied. Most, if not all of the cases contained in the Table were of this character, and all of those which are mentioned as having occurred in private practice, with, perhaps, one exception, this having been complicated by large abscesses, and by fistulas. We are convinced of the fact which Mr. Fergusson says he has long had the idea of—"that the seeming dexterity (in passing instruments in these impermeable strictures) was nothing but actual violence;" and that surgeons "appear to pass the instrument easily into the bladder, whilst they are *really forcing* their way through a canal, the relative anatomy of which is very familiar to them." We may, in this connection, remark that, in the practice of the New York Hospital, when even the smallest-sized conical instrument can be introduced, the idea of dividing the perineum, as a means of cure, is not entertained, but a cure by gradual dilatation, with graduated instruments, is confidently expected: we remember no instance of a different result. This being the case, the first step in the operation, as performed by the great Scotch surgeon and by the surgeons of the London hospitals generally, is an argument against the propriety or necessity of any cutting operation whatever; for, why should a patient be subjected to so severe a procedure as the perineal section, when the passage of the guide through the stricture may be followed by larger instruments, and the canal thus enlarged to its normal dimensions? In cases complicated by abscess or by extensive fistulas, it may be, and is often, necessary to perform the cutting operation, even though a small instrument can be introduced. In a case which we have recently had under treatment, and which we may be permitted to introduce here as an exemplification, it was only after repeated trials, even with the important aid of an anesthetic, and with considerable difficulty, that we could introduce an instrument, and then only one of the fine-pointed, flexible bougies manufactured by the French, and so admirably adapted to these cases, its diameter, at its largest part, being only one-half that of silver catheter No. 1, and yet, in the course of three or four weeks, by careful and gradual dilatation, the urethra was enlarged to the size of No. 10.

The following is the table referred to in the preceding pages:—

No.	Age.	Duration.	Date of operation.	Date of discharge.	Result.	Cause of death.
1	33	4 years.	Jan. 9.	July 13.	Cured.	
2	27	3 years.	Nov. 22.	Feb. 1.	Cured.	
3	51	5 years.	Oct. 24.	Jan. 8.	Much rel'd.	
4	26	Over 4 years.	April 21.	July 1.	Relieved.	
5	29	Several years.	Sept. 6.	Dec. 4.	Cured.	
6	52	10 years.	Sept. 7.	Oct. 17.	Cured.	
7	48		July 8.	July 17.	Died.	Peritonitis.
8	14		Nov. 20.	Jan. 13.	Cured.	
9	30	5 years.	Dec. 15.	Feb. 27.	Cured.	
10	25	12 years.	Aug. 31.	Jan. 6.	Cured.	
11	43	3 years.	Dec. 14.	Feb. 3.	Cured.	
12	50		Jan. 31.	June 16.	Cured.	
13	55	8 years.	July 17.	Aug. 23.	Cured.	
14	56	18 years.	March 9.	May 22.	Much rel'd	
15			Aug. 4.	Aug. 17.	Relieved.	
16	40		Dec. 31.	July 25.	Cured.	
17	20		June 15.	Aug. 28.	Cured.	
18	31	5 years.	April 23.	Oct. 16.	Relieved.	
19	35		March 17.	May 5.	Cured.	
20	63	20 years.	June 27.	July 24.	Cured.	
21	38	7 years.	Nov. 30.	Dec. 28.	Cured.	
22	31	7 years.	May 19.	June 14.	Died.	Exten'e suppuration.
23	48		Feb 24.	July 16.	Cured.	
24	49	4 years.	Oct. 17.	July 17.	Relieved.	
25	13	1 year.	Oct. 13.	March 8.	Cured.	
26	29	4 years.	May 8.	May 8.	Died.	Coma.
27	23		Aug. 9.	Oct. 6.	Cured.	

In Cases 10, 11, and 15, the operation of *internal* division was performed; Case 23, was a pseudo-lithotomy operation, for removing portions of a gutta-percha bougie; all the others were cases of external division, in the manner described in the preceding pages of this paper. Case 1 was complicated by extensive abscess and fistulous openings in the perineum; Case 3, by "fistulous openings;" Case 4, by "infiltration of urine, and sloughing of scrotum before operation—patient refused to undergo a further operation;" Case 5, by "*fistulæ in perineo;*" Case 8 resulted from a "wound of perineum;" Case 10 resulted from "injury of perineum;" Cases 16, 17, 18, and 19, resulted from "injury of perineum;" in Case 22, patient had a broken constitution, and "extensive abscesses had formed previous to operation;" Case 27 resulted from injury of perineum. The other cases resulted from the usual cause. Of the number, *three died*, two *were much relieved*, four were relieved, and *eighteen were cured*. "In some of the cases which were discharged as *relieved*, a further operation might have resulted in *cure*, but the patients were unwilling to submit to it," being contented with the alleviation of their sufferings already afforded. In many instances in which the operation was performed, it was under very unfavorable circumstances, as will be seen by a glance at the table. In seventeen cases, in which the duration of the existence of the stricture, previous to the operation, is mentioned, the average is *seven years*. "In most, if not all of the cases, the operation was regarded as the only means of effecting a cure, all other means having failed; and, in many instances, it was necessary, not only for the purpose of rendering the patient's life more comfortable, but for saving it. The proportion of cutting operations for stricture, to the number treated by *dilatation*, is very small in the New York Hospital."

We look upon it as a matter of the greatest importance, to establish the feasibility and comparative safety of the perineal section, and especially as performed *without a guide*, for in most, if not all cases requiring the operation, surgeons find it impracticable to introduce any guide, although one of small size may, perhaps, usually be *forced* through by one well acquainted with the course of the canal and its relations, but in no case, we think, without danger of making false passages, and thus materially increasing the danger, and diminishing the chances of a perfect cure from the subsequent operation. The cases included in our Table, and those performed in private practice in the city, with like results, will, in our opinion, go far towards increasing the confidence of surgeons in this operation.

Mr. Lee, of King's College Hospital, in his lecture previously alluded to, looks upon the wound of the *deep perineal fascia*, necessarily made in this operation where the obstruction is in the membranous portion, as "fatal to its general success," from the danger of extravasation of urine behind the fascia, and consequent inflammation with its *sequelæ*. We can only say that the results of the operations performed here, and generally alluded to in this paper, although they do not remove the apprehension of this danger entirely, yet indicate that it is of so infrequent occurrence as scarcely to be taken into consideration, when the stricture is of such a character as to call imperatively for operative interference. The safeguard against this occurence lies, we conceive, is this,—the stricture, not having been *forced*, as in cases where it is thought requisite to pass an instrument into the bladder as a guide, the parts contiguous to it are not irritated or wounded by the violence necessarily used, and by the wrong direction which, to some extent, the point must inevitably take, especially when the stricture is of some length, and therefore the opening is not so likely to close up against the free passage of the urine, or to take an inflammatory action; again, this opening into the membranous portion is so free in its communication with the external wound, that nothing hinders the easy egress of urine from the bladder, which, finding a far more easy access through it than through the cellular tissue behind the fascia, will almost invariably take the former course, and infiltration thus be rendered, *in ordinary circumstances*, almost impossible. To insure a certain and complete passage of the urine in this direction, it is the custom of some surgeons to retain a very large-sized female catheter, No. 14 or 15, in the wound for some days, and not to introduce an instrument immediately from the distal portion of the canal.

We trust that cases alluded to, and the facts adduced in this communication, will be considered as establishing the two points so much doubted by the English surgeons. First, that the perineal section for stricture, whether it be in the bulbous or membranous portion, is a comparatively safe operation; safer than most surgical operations of equal importance. Secondly, that a skillful surgeon will almost always succeed, even in cases where no instrument of any kind can be passed into the bladder, and, consequently, when he has to cut for the posterior extremity of the stricture, with no other guide than his anatomical acquaintance with the relation of the parts.

Since the foregoing was written, we have met, in a recent publication, with a second instance of external division for the cure of impermeable stricture, without a guide, by an English surgeon, and with success. Also with an account of a "new method of urethrotomy for the cure of stricture," by M. Maisonneuve, Hôpital Cochin, Paris, who precedes his description of the operation with the remark that the other cutting operations are "usually so delicate and complex, and, above all, the accidents they may involve are so numerous and so serious, that the most experienced practitioners hesitate to adopt them." Before proceeding to the performance of the operation, he enjoins the following "preliminaries." "Before performing the operation by my method, the surgeon should gradually bring the urethra to a degree of dilatation sufficient to admit of the urethrotome being easily introduced. He ought especially to accustom the canal to the contact of instruments, in order to avoid the febrile attacks, which, in this region, so frequently complicate even the most simple operations. To this end the patient should, during at least a fortnight, be subjected to progressive dilatation by means of elastic bougies. He should also be kept on light diet, have frequent baths, emollient lavements, and cooling drinks."

"This preliminary treatment is not, however, intended merely to accustom the canal to the contact of instruments, and to obtain the amount of dilatation necessary to the introduction of the urethrotome. It is also useful by enabling the surgeon to introduce exploring instruments, and so to ascertain exactly the number of the strictures, their position, extent, degree of resistance, etc." "All these objects having been accomplished, the operation may be proceeded with." The patient having been properly secured, M. Maisonneuve goes on to say:—"The surgeon introduces the urethrotome, as he would an ordinary catheter, to three centimetres *beyond the last stricture.*" A concealed knife is then thrust out, and the stricture divided, the instrument being arranged in such a manner as also to dilate the stricture, to some extent, at the same time.

Now, we would simply ask, why, after having accomplished "all these objects," the not least important of which being the complete permeation of "all the strictures," and that by no very small instrument, it would seem,—why any further operative procedure should be considered necessary? Why not go on dilating with graduated sounds, and thus effect a cure, as can be done in almost all cases, without subjecting the patient to a severe cutting operation? For, an operation, simple as its inventor would have us believe it is, may be called severe, when it has, even occasionally, such sequences as he himself describes—"engorgement of the testicle," "abscess in the perineum," and "urethral fever." Besides, the operation, even after the cutting is accomplished, is not finished, but requires five or six weeks of "extremely prudent catheterism" to complete the cure; and, again, what is to become of those urgent cases of complete retention which call for immediate relief, if a preliminary course of treatment, occupying "at least a fortnight," is absolutely requisite to the complete success of this new method? The same remarks in part apply to M. Reybard's method, recently introduced to the public. In this, also, the instrument must first be introduced *through the stricture* and to some distance beyond it, which is then incised from behind forwards. If our position be correct, that almost every stricture, however callous, may be dilated to the natural size of the urethra and maintained so, by the careful use of graduated bougies, without incurring any risk whatever to the patient, or putting him to any considerable pain or inconvenience—and the scores of cases so treated in the New York Hospital for the last twenty years fully attest its correctness—then neither of those new methods is applicable to any case of stricture, for, wherever *they* are applicable, the method by dilatation is equally so. They are scarcely to be preferred to the method gravely advised by a surgeon of this country some years ago—of cutting into the bladder above the pubes, and passing a conical instrument through the stricture from behind forwards, when the introduction in the opposite direction was found to be impracticable.

Art. IV.—*Remarks on Occlusion of the Uterus, with a case.* By A. Willard, M. D., Greene, N. Y.

Case.—On the 27th of June, 1852, I was requested by a young gentleman, who had the case in charge, to see a young woman in labor with her first child. It was nearly sunrise when I first saw her, and I was informed she had been suffering parturient pains during the whole night, and part of the preceding day—that towards morning the pains had become so exceedingly severe, that rupture of the uterus was feared—that the fœtal head was low down in the pelvis, but that for some hours no progress had been made in the labor, and that no os uteri had, as yet, been discovered.

On examination, the head was found filling the pelvic cavity, almost pressing on the perineum, and seemingly covered with a delicate, smooth membrane, which, at the first touch, might have been readily enough mistaken for "the membranes;" but, as it terminated all around its circumference in the vaginal wall, it was, of course, evident that it was, in fact, the distended uterus, drawn tensely over the advancing head of the child, but no delicacy of touch could detect any thing like the remains of a cervix uteri, or an os tincæ. Still it was quite reasonable to suppose that these two very important anatomical localities had existed somewhere about the apparatus feminea of this patient, and the evidence of the *present* existence of the os tincæ, at least, was, on the whole, quite convincing and undeniable, inasmuch as there was a constant dribbling of liquor amnii, which was readily distinguishable by its peculiar odor. After much search, a very slight dimple was found high up on the posterior surface of the presenting part, feeling very much as the impression of a common-sized shot on the smooth membrane might be supposed to feel; or, rather, it was a minute spot, feeling rather softer than the rest of the membrane. This point was explored with a small-sized elastic catheter, which it was found could, without any special difficulty, be passed through it into the cavity of the uterus. There was no extra heat or irritation about the vagina—the parts were soft and dilatable—the portion of the uterus covering the head of the child had no feeling of rigidity about it—even the os uteri itself had the same pliable feeling, but seemed obstinately disposed to resist all natural attempts at dilatation. The pains, indeed, were severe, and although the uterus seemed in full action, and was rendered tense and hard at each successive contraction, still there was no progress made in the labor.

Shortly after sunrise, the severity of the pains began to subside, and as there was no impaction of the head, and no obstruction of the natural passages, it was concluded to wait patiently the efforts of nature. It was, indeed, thought that no other proper course could be taken, for, in addition to the favorable state of the parts concerned, the woman was of a hardy race, inured to labor, in perfect health and full strength, and, as yet, there had not been enough of fatigue to render the nervous system irritable to any great degree. With a slight anodyne, therefore, the case was, for the present, left to itself.

The patient remained tolerably quiet, with only an occasional uncomfortable feeling, till the following night, when the pains recurred with a good deal of severity, and with perfect regularity. Thus the labor continued, with a variable degree of intensity, until Saturday, July 5th, the pains sometimes being so extremely severe as almost to threaten a rupture of the uterus; at others, so light as to be scarcely noticeable, and sometimes, for a few hours, entirely subsiding, enabling the woman to recruit her energies, and recover from the fatigue of so much exertion. During all this long series of days and nights, and with all this amount of pain, no perceptible effect had been produced on the obstinately contracted os uteri; but on this day (Saturday) the uterine contractions seemed to become more constant, and to have less disposition to subside. In the afternoon a slight increase in the diameter of the os uteri was perceived, which continued to augment very gradually, but constantly, till nearly Sunday morning, when a perfectly healthy female child was born, almost ten days after the actual commencement of the labor. The mother was able to be up and about the house in a week or ten days.

There may, perhaps, be nothing in this case which is particularly uncommon, or decidedly interesting; still it may serve as a point from which certain deductions may be drawn, possibly not entirely unimportant to the practitioner.

No one, it is presumed, will doubt that this was decidedly a case of lingering and protracted labor; but the causes which produced this state are not quite so apparent as the fact itself. One cause may undoubtedly be looked for in the dribbling away of the liquor amnii; but a still more important one is, doubtless, to be found in the misplaced os uteri, a consequence, we apprehend, of inequality of action in the uterine fibres. Irregularity of uterine action is ordinarily classed among the causes of protracted labors, but writers on the subject do not explain very satisfactorily, to our understanding, in what this irregularity consists.

In order to understand the irregular action of the uterus, it is first necessary for us to understand its regular action.

Some of the older writers on the subject consider that the contractions of the uterus, during labor, mechanically stretch the os uteri, by pressing the membranes and the presenting part of the fœtus down upon it; but says Rigby,* this is not the way, "it dilates in consequence of the circular fibres being no longer able to maintain that state of contraction which they had preserved during pregnancy; they are overpowered by the longitudinal fibres of the uterus, which by their contractions pull open the os uteri equally in every direction." All this we deem, with all due deference, to be "an odds without any difference," for, whether the os uteri be *stretched open*, or *pulled open*, it is pretty evident that the contents of the womb must be pressed upon the os uteri in the one case, to serve as a *stretcher* for it, and in the other as a sort of fulcrum or fixed point over which it is *to be stretched.* It is needless to quote authority, to show that the parturient action of the uterus is considered to consist in a series of contractions, whereby, in due time, its contents are expelled.

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* *System of Midwifery.* Phila. Ed., 1841, p. 158.

We imagine, however, that the *true* parturient action of the uterus is compound in its character; that it consists in the consentaneous muscular contraction of the one part with the muscular dilatation of another: that is, while there is contraction of the body and fundus of the womb, there must necessarily be, and is, a corresponding dilatation of the lower portion and the cervix, or that portion of the organ which has received that anatomical designation. The more equal these two widely differing actions are, the more easy, it is evident, will be the labor, and the less will be the amount of pain the female is destined to endure; and so long as these two actions continue to coöperate with perfect equality of force, so long will the labor be continued to the entire satisfaction of all concerned. But it is evident that this coöperative action may vary in a variety of ways.

1st. There may be no disposition in the lower portion or neck of the womb and the os uteri to dilate, while the upper portion is in a state of active contraction.

2d. The lower portion of the womb and the os uteri may contract at the same time with the body of the organ, and the abnormal contraction of the inferior portion may be either permanent or intermittent, and corresponding with the regular puerperal contractions. In these instances the os uteri would be undilatable, and, in the first, *rigid.* Every accoucheur has found in some cases of protracted labor, on examination, that the os uteri becomes tense during the continuance of the pain, and actually contracted in its diameter, and that on the subsidence of the uterine action it again becomes flaccid and apparently dilatable; and, in other instances, that the os uteri feels hard and rigid, not only during the continuance of the pain, but during the intermission also.

3d. The os uteri may refuse to dilate, and, at the same time, some other circumscribed portion of the uterus may take on that action. If this circumscribed spot should occur in the body of the womb, there would be danger of rupture, and the consequent passage of the child into the cavity of the abdomen; if in the lower portion, the head of the child would pass into a sort of cul de sac, with the same danger of rupture, but, in consequence of the locality, with no very essential danger to the patient.

4th. The contractions may be in a circular direction only.

5th. The contractions may affect the longitudinal fibres only, and in neither of these cases, it is easy to perceive, would there be any expulsive action.

6th. As the muscular fibres of the uterus are supposed to run and to act in all directions, it follows that they must all act with equal comparative strength, or the action is not regular; hence, all the fibres may be in action, and still the action be irregular, from this cause—that is, one set of fibres may act with one degree of strength, another with another degree, and so on, and the consequence, we may reasonably conclude, would be long, lingering, tedious, and ineffectual labor, but without any special tendency to rupture of the womb. Allowing these positions to be true, it follows, that uterine action may be *regular* and still not *perfect*.

Now, in the case which has been narrated, there seems to have been a disposition in the anterior and inferior portion of the uterus to dilate, while at the same time the posterior and inferior portions retained their position and the os uteri remained closed and strongly contracted. It is quite evident that if this state of the parts existed, while the superior portion of the uterus was making active parturient efforts, the necessary consequence would be, that the advancing head of the child would be thrown down into a sort of cul de sac, and the os uteri be thrown two or three inches, more or less, above the most depending part of the child's head, and looking towards the sacrum.

If this disposition to dilate happened to the *posterior* and inferior portion of the uterus, the os uteri would be thrown upward and under the pubis; and so, if the dilatation should happen on either side, the os uteri would necessarily be turned to the opposite. Is not this the state of the parts which actually happens in what is called obliquity of the os uteri?

Every accoucheur knows that where the os uteri is found to any great degree turned from the centre of the pelvis in any direction, he may expect, as a general thing, a long and tedious labor, and that his virtue of patience will, probably, be put to a pretty severe test.

If this obliquity were caused by a deviation of the uterus, in any direction from the median line or from the line of the pelvic axis, the evil might be altered by placing the woman in such a position as to cause the organ to fall towards the opposite direction. But, ordinarily, altering the relative position of the womb, does not materially alter the position of the os uteri, and the reason why is tolerably evident, and that is, that the centre of motion of the womb, at full time, must necessarily be very near its orifice, if not directly there; and besides, if any one will take the trouble to imagine the direction of the line of action of the uterus, (if I may so term the direction of the expelling force of the parturient action,) in any one of these cases of "obliquity of the os uteri," he will undoubtedly find that it will fall in such a direction as to bring the os uteri some removes from the centre of action. Now, if the effect of the throes of labor is to bring the fundus uteri very nearly or quite into the right position to make it correspond to the axis of the pelvis, so that the two points shall be in the line of action of the uterus, and it is believed that such is ordinarily the case—it is not readily understood how it is possible to conceive that obliquity of the womb has any thing to do with obliquity of the os uteri. True, some writers do not mention this obliquity of the os uteri; some barely notice it; and some give it a good deal of importance. It, however, does at times, perhaps, frequently exist in a greater or less degree, and the cause of it we have attempted, in as few words as may be, to point out; and the question now comes up:—May it not at times exist to so great a degree as to lead us into serious error?

If we admit that the os uteri may be turned to one side or the other *in any* degree, in consequence of irregular action, we may also admit that it may be turned, by the same cause, to so great an extent that it may become absolutely concealed at that point where the mucous lining is reflected from the depending part of the uterus to the vaginal walls. In a case of this sort we might (possibly) find a case of *atresia uteri*—a case, at any rate, in which it would be extremely difficult, if not impossible, by any ordinary means, to discover the os uteri, and which may at some time, perhaps, have passed for a morbid closure of that orifice.

In making this suggestion, we do not wish to be understood as denying the existence of this accident, for we have long since learned to admit the possibility of almost any thing. We do, however, desire to express the opinion that, from the nature of things, such an accident must be extremely infrequent, and more especially so in the pregnant state.

Every one, at all conversant with the subject, knows that it is extremely difficult to procure adhesions of the mucous membranes, and that Nature has particularly guarded the orifices of the mucous passages, with unwonted care, against the occurrence of such an accident.

Does a closure of these passages or their orifices *ever* take place by adhesion, unless some disease or accident occur which entirely changes the character of the mucous tissue?

Plastic lymph must be secreted before adhesion will take place, and it may even be doubted whether mucous membranes, while they remain such, ever secrete it. "When, by the violence of the local action, false membrane is thrown out on a mucous surface, we generally find that a fluid is effused between them, by which their adhesion is prevented, and the effused lymph may be discharged. We have examples of this in croup, when the false membrane is coughed up, and occasionally in virulent gonorrhœa, when shreds of lymph, resembling the urethra in shape, come away with the urine. In the experiments recorded by Mr. Hunter, it required the most violent means to induce adhesive inflammation in a mucous structure.*

We suppose that in all cases of pregnancy the os uteri is closed, not by actual contact of its sides, as in the closure of most of the mucous passages, but by the actual insertion of a plug of inorganizable mucus, and this fact makes it doubly difficult to conceive how closure by adhesion can take place, unless Nature sometimes makes a blunder, and fills the orifice with plastic lymph instead of mucus. It is possible, that a sufficient amount of mechanical injury may happen to disarrange this plug of mucus, and excite a degree of inflammation adequate to the production of adhesion. This, however, is almost apocryphal, inasmuch as Nature has wisely stepped in to prevent such an unlucky event; the first effect of an inflammation of a mucous membrane, under ordinary circumstances, being an increase in the natural secretion, which at the same time relieves the diseased action and prevents adhesion; and the second effect is a discharge of puriform mucus, which has a precisely similar effect. But nevertheless, such accidents are said to happen, and we occasionally find one of the kind reported in the periodicals. In Dr. Ashwell's *Treatise on the Diseases of Females*, several pages are devoted to the consideration of *Occlusion and Rigidity of the Os Uteri*, being a reprint, however, almost verbatim, of a monograph of his on that subject, published in *Guy's Hospital Reports* for April, 1839.

In this paper he quotes freely from a Thesis of Dr. Naegele,

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* V. MORGAN *On Inflammation and its Effects.*

Jr., *on Conglutination of the Os Uteri*, published at Heidelburg in 1835, referring to cases therein, and also to examples in Smellie's cases and elsewhere.

Several of the cases of occlusion referred to are so precisely alike in all their symptoms, that a description of one will almost answer for a description of the whole. Naegele, Ashwell, and Rigby, agree in the fact, that certain cases of agglutination occur in "which, by some adhesive process, apparently that of inflammation, the lips of the opening (os uteri) adhere and completely close it." Rigby, *Midwifery*, p. 312. "It is important to bear in mind, that such closure may not be attended by any other disease of the parts: the adhesion may be firm and complete, but there may be no scirrhous induration—no distinct nodule of hard substance; the neck of the uterus will be forced down by the pains; and the sensations imparted to the finger, on examination during labor, will be *quite natural*, excepting only that *no aperture* will be found." Ashwell, *on Diseases of Females*, 315.

Baudelocque describes this condition of the os uteri; but he, as well as North, Dewees, and many others, believes it to be owing to anterior obliquity of the womb. "Within our knowledge," says Dr. Dewees, "this case has been mistaken for an occlusion of the os uteri, and where, upon consultation, it was determined that the uterus should be cut, to make an artificial opening for the fœtus to pass through. They thought themselves justified in this opinion, first, by no os uteri being discoverable by the most diligent search for it; and, secondly, by the head being about to engage under the arch of the pubis covered by the womb. Accordingly the labia were separated and the uterine tumor brought into view; an incision was now made the whole length of the exposed tumor, by a scalpel, down to the head of the child, the liquor amnii was evacuated, and, in due course of time, the artificial opening was dilated sufficiently to give passage to the child. The woman recovered, and, to the disgrace of the accoucheurs who attended her, was delivered, per vias naturales, of several children afterwards,—a damning proof that the operation was most wantonly performed." *Compendious System of Midwifery*, §223.

In speaking of this state of the os uteri, Rigby says, p. 313:—"The os uteri is closed by a superficial cohesion of its edges, which in some cases seem to adhere by means of an interstitial fibrous substance: this, when of a firmer consistence, forms a species of false membrane, which, in some cases, is capable of resisting the most powerful uterine contractions, and in others it seems to cover the os uteri so completely, as to conceal it most effectually and give rise to the erroneous conclusion that the os uteri is altogether wanting." "Although," says Prof. Naegele, "this obstacle in some cases is capable of resisting the most powerful efforts of the uterus, a degree of pressure against it while in a state of *strong distention*, either by the tip of the finger or a female catheter, is quite sufficient to overcome it."

It seems to us exceedingly improbable, to say the least, that a slight adhesion of the os uteri, one that will give way to a slight scratch of the finger-nail, or a still slighter pressure of the catheter, should be able to resist the whole immense power of the uterus while in perfect action—a power which, under ordinary circumstances, is almost resistless. If the action of the uterus were perfect and regular, (we mean that compound action which we have supposed constitutes what is technically called a *regular pain*,) this would seem almost to be an impossibility; but if, as we have supposed, there should be a general contraction of the uterus, without the dilating action, or any disposition of the organ thereto; we apprehend there would be no probability, scarcely a possibility, that the os uteri would dilate at all; under such circumstances we imagine the uterus would be as likely to rend itself in one place as another, by its own action. But it may be said that when the uterus is incised, the fœtus is pretty soon expelled; this, however, is not always the fact, probably not in a majority of instances, as the recorded cases will show. Everybody knows that, when a muscle is cut, the divided ends recede from each other, and the greater the muscular action, the greater, of course, will be the recession—so in this case, the uncut muscular fibres continue their action, while the divided fibres, of course, retract, leaving an aperture through which the contents of the uterus would be forced, provided the uterine action be at all perfect in its character; but, even after incision, it is pretty evident that regular and perfect contractions of the uterus do not always follow, and in such cases we should infer (what cases show to be actually true) that hours might intervene between the operation and the expulsion of the fœtus, or, that it might even become necessary to make use of the forceps, or resort to some more serious operation.

We will refer to some of the cases on record, for the purpose of seeing how far our views are carried out by them.

From the monograph of Dr. Ashwell we derive the following, which are classed under the head of "*Entire Occlusion*." Cases 2, 3, 5 and 6, are examples taken from the Thesis of Prof. Naegele. In all these cases "the occlusion was produced by cellular membrane filling up the orifices and uniting the margins of the aperture." In the two first and probably in the last, "the lower part of the uterus was rendered very hard and tense, and greatly pushed down by the uterine efforts; so that in one of the cases it might with some excuse have been mistaken for the bag or membranes containing the liquor amnii." In one of the cases the patient was more or less in labor for eight days; in another, for two days and nights; in the other two the time is not mentioned. In one case the pressure of the finger was sufficient to rupture the membrane, and in the others the female catheter was used; in all "parturition was accomplished without instruments, the children were living and the mothers did well."

In relation to these four cases, we have only to say, that we can perceive no especial difference between them and our own, excepting that, in one case, there was an evident dribbling away of the waters, pretty decidedly establishing the fact that there was a patent os uteri somewhere. Dr. Rigby informs us, on the authority of Prof. Naegele, that little or no pain is produced by this operation, and that "the appearance of a slight discharge of blood will show that the structure has given away." We respectfully suggest that the introduction of the tip of the finger or the catheter into the os uteri, when in a state of *strong distention*, and but slightly or not at all dilated, will always produce a "slight discharge of blood," so that, although this discharge may be evidence that the obstacle "has given way," it is not necessarily evidence that there was any obstacle there. Is it not true that, sometimes, irritating the os uteri with the tip of the finger will produce regular and perfect uterine contractions, when they had previously been imperfect and inefficient—and may not an incision (the stimulus of the knife) produce at times the same effect?

We admit our perfect inability to see any thing, in these cases, beyond a lingering labor, the natural and unavoidable consequence of a peculiar, imperfect and irregular uterine action.

Case 4 (from Prof. Naegele's Thesis).—"No uterine orifice could be detected, although the lower segment of the womb was pushed almost to the lower orifice of the vagina—this was on the third day after the accession of the labor—the woman was very much exhausted—an incision was made with the scalpel—a dead child extracted by the forceps, and and in the evening the woman died."

No. 7 (from the same).—"The patient had suffered from leucorrhœa during the whole period. There was no os uteri, and on the third day of the labor one was made by incision—six hours afterwards he applied the forceps and brought a living child into the world—the patient recovered well—the orifice retained afterwards the form it had received from the incision, and in the next confinement there was no necessity for interference."

No. 8 (from the same).—"The labor commenced on the 2d of May, and the Doctor, after repeated examinations, was unable to find an os uteri. On the 4th an incision was made in the *neck* of the womb," (how was the neck found, when the os tincæ could not be?) "and, in twenty-two hours afterwards, the child was brought away by the forceps."

These seven cases are all more or less deficient in detail. We are told nothing of the general health of the patients during the period of pregnancy,—no accident is mentioned which would have given rise to inflammatory action in the parts concerned,—nothing is said about pelvic deformities, and no abnormal condition of the soft parts is mentioned, with one exception—that in which the patient had leucorrhœa. Under such circumstances, we may reasonably conclude that the patients were all in ordinary health during pregnancy, with the exception of the occlusion of the uterus. In the three last cases it is distinctly stated, that no os uteri could be found—that it did *not* exist, we, of course, are unable to prove, except by negative evidence. The patients had been in ordinary health—there is no evidence that any local disease existed which could have produced organic adhesion; for we imagine the leucorrhœa, which one of the patients had, to be totally incompatible with adhesion. If organized or vital adhesion had once taken place, we can see no reason why it should not again have happened after the operation, and effected a perfect closure of the womb. We are not informed that was the fact in any case, but, on the contrary, we are distinctly told in one of them that, "in the next confinement there was no necessity for interference." We are not told that menstruation did *not* occur in due course; we are therefore at liberty to infer that it *did*, and, indeed, we are told that "the mothers did well" in four of the seven cases.

May we not, in view of these circumstances, reasonably doubt the existence of organic closure of the os uteri in all these cases? But, the case on which Dr. Ashwell seems to pin the most of his faith, is one reported by Mr. Tweedie, in *Guy's Hospital Reports*, and is to be found also in Dr. A.'s

Treatise on the Diseases of Females, p. 326, and is headed "*Pregnancy with imperforate Uterus*."

We give the case in a somewhat condensed form:—"Mrs. P., aged 23 or 24, was taken in labor, with her first child, on the 14th or 15th of November, 1826, at 7 o'clock." * * "Mr. Roe (the attendant) observed the pains to be urgent and very powerful; but, although he remained several hours with her, he had not succeeded in discovering the os uteri."

Mr. Tweedie (the reporter) saw her at 2 o'clock; he says:—"I found a firm, uniform globular mass forcing down into the vagina, at every pain, which was of great force, *but no irregularity on its surface could be detected*," (the italics are our own,) "and a very careful examination of the entire vagina, whose extremity was easily reached at all points, failed in detecting an os uteri."

"In the evening we met again—the labor pains had persisted, and were of unusual severity." * * * * "A most careful examination of every part of the vagina failed to detect any os uteri. At the upper part of the canal, at each pain there was forced down this tight, tense, globular body, of the bulk of the child's head; and conveying the impression of an entire uterus, without orifice. About the spot where the os uteri should have been, *was a minute portion, somewhat thinner than the surrounding parts;* but the whole was uniformly smooth and contained no break whatever." * * * * "Both before and subsequent to her marriage, she (the patient) enjoyed good health; and although, in the necessary duties of her vocation, she has undergone an unusual degree of laborious exertion, still she has not had a day's illness. For two or three days before labor came on, she noticed a rather copious reddish discharge, that continually drained from her; but there was no pain. On the subsidence of this, about the 12th, slight pains in the back were felt, which went on till the night of the 14th, when they assumed a severe and urgent character." * * * * Dr. Ashwell was now called in, "and having, by a careful examination, positively confirmed the statement of the condition of the parts already made, he determined upon losing no more time in making an artificial opening across the above-named spot, where the globular body seemed slightly thinner than elsewhere." * * * An incision was made, "the liquor amnii of course escaped, and the head fell upon the artificial opening, which proved to be of the diameter of one and a half, or, perhaps, nearly two inches, and about a line in thickness." * * * "Dr. A. left at 1 o'clock, A. M., of the 16th; the pains abated for a brief space after the operation—they, however, recurred—but little advance towards dilatation appeared to be made for some time, till about 4 o'clock, A. M., when, under the influence of a severe pain, the edge of the orifice tore suddenly on the right side, and soon after another rent took place. She now became faint." * * * "After waiting about two hours the pains recurred gradually, and became as powerful as at any previous stage of the labor." * * * "The patient was delivered at 11 o'clock, A. M. The child was still-born, but revived."

On examination, after recovery, it was found that the vagina was unusually short; *there was no cervix uteri;* the scars left by the operation and the rupture were distinctly to be felt; at the extremity of the vagina was the os uteri, in the form of a puckered, irregular orifice.

In this case there was unquestionably congenital malformation of the cervix uteri, which of itself may have had considerable influence in modifying or even producing many of the symptoms in the case, especially if the muscular structure was in any way influenced by the abnormal condition of the neck.

If such were the case, or even if it were not, it is not unreasonable to suppose that the action of the uterus was imperfect. The pains, it seems, were severe and recurred shortly after the operation, but with little advance towards dilatation till about 4 o'clock, from three to six hours or more after the incision was made (we are told that Dr. A. left at 1 o'clock, A. M., but not at what hour the operation was performed), when a severe pain rent the os uteri extensively and was followed by faintness and exhaustion for two hours, when the pains again recurred, but even then the labor was not completed till 11 o'clock, A. M., 10 or 12 hours at least after the operation. If the pains had been perfect in character, it is scarcely to be supposed that the closure of the labor would have been so long delayed after the incision, and more especially, as we have reason to believe (we are not informed to the contrary) that the patient was anatomically faultless, and that there was no *diseased rigidity* of the uterine fibres.

Was this a case of perfect closure of the os uteri? Mr. Roe found, on examination, a firm, uniform globular mass, but failed, by the most careful search, to detect any os uteri; nevertheless, "about the spot where the os tincæ should have been, was a minute portion somewhat thinner than the surrounding parts."

There can be no reasonable doubt, we imagine, that this *point* was the os tincæ, and that it was a patent one, too; for across this point the incision was made, and from the os tincæ, it was afterwards found, the cicatrices of the incisions radiated. It will be remembered that, for two or three days previous to the accession of the labor, the patient had a pretty "copious reddish discharge" continually draining from her. From what point did this issue? Under ordinary circumstances, we should, of course, say, from the os tincæ. If there was no os tincæ, some other origin must be found; but we leave that point for those to discover who are interested. From the experience derived from the case we have reported, and, with all due deference, from many of the cases we have quoted, we consider it to be a very difficult matter, and one which requires the very nicest sense of touch, to detect in a *tense, wet membrane* a small orifice or slit, and the latter, even, cannot be detected at all times with the sense of sight superadded.

We have already intimated, that it is somewhat puzzling to understand how, after fully organized closure of the os uteri, an incision made across it should be any more liable to remain open at that precise point than at any other in its course, or why, indeed, there should not be very great danger of its adhering again, at all events. But so far from there happening any such untoward event in this case, Dr. Ashwell informs us that the medical attendants of Mrs. P. have "*in three succeeding labors been compelled to resort to incision*"*!!* If there be congenital defect in the muscular structure of the cervix uteri, we should be inclined to believe that the necessity for incision is tolerably apparent. We are not told whether, in these three last cases, the uterus was entirely imperforate, as it was in the first; if it were, the os tincæ must have been of a very accommodating character, to remain open till impregnation took place, and then close itself up, probably to prevent abortion and hemorrhage.

The operation of vaginal hysterotomy for occlusion has been performed in this country three times (perhaps more) —twice by Professor Bedford, of New York, and once by Dr. W. H. Reynale, of Buffalo.

The first of Prof. Bedford's cases was reported in the *New York Journal of Medicine* for March, 1843, which I have not at hand, but only a short notice of it, appended to his second case, which is to be found in the *American Journal of Medical Sciences* for April, 1848.

In the first case, the closure was produced by injuries inflicted on the os uteri in an attempt to procure abortion. It was quite evident that the os uteri was obliterated. The child was expelled in ten minutes after the incision was made, affording pretty good evidence that the uterine action was perfect and efficient. Is it possible that the muscular structure of the neck of the womb was injured, by the violence inflicted, to so great a degree as to prevent its action? If such were the case, we should infer that an operation might have been necessary, even although the os tincæ had been pervious.

In Dr. B.'s second case, the labor pains were decided and regular. Dr. Clinton, the attendant, was unable to detect any os uteri. After 14 hours, the pains increasing in violence and becoming expulsive, Prof. Mott was called in, who was also unable to find any os, but supposing that some change might take place, during the night, in the position of the parts, which would enable him to reach it, the patient was left in the care of Dr. C. "He made several examinations during the night, and could feel nothing but a globular, smooth, and uniform surface." Prof. Mott returned in the morning, and again failed to detect the os uteri. The case now assuming a dangerous character, Prof. Bedford was sent for, who, on examination, "could not find the slightest trace of an os tincæ, and became satisfied, after thorough exploration, that it was entirely obliterated."

The patient had now been in labor 40 hours. "Under these circumstances," says Prof. B., "it was proposed to lay the womb open, through the vagina, and, at the request of Drs. Mott and Clinton I proceeded to perform the operation as follows:—with a probe-pointed bistoury, covered," etc., etc., "I made a bilateral section of the neck of the womb," [how is the neck of the womb to be distinguished and identified, when there is nothing to be felt "but a globular, smooth, and uniform surface"?] "extending the incision to within a line or two of the peritoneal cavity. The head of the child was immediately felt through the opening, the pains continued with violence, but there was no progress in the delivery. The *neck* of the womb was exceedingly hard and resisting, and presented to the touch, after the incision, a cartilaginous feel." * * * "At 6 o'clock in the evening, the head had not descended, nor had any impression been made on the opening, although the pains had been severe. I then made an incision through the *posterior lip*" [although not the "slightest trace of an os tincæ" was to be felt!]. A weak solution of tart. emet. was now administered, with a view, if possible, of procuring relaxation. At two o'clock, A. M., the pains were violent and excessive, but with no change on the head of the child; the incisions were enlarged and new ones made. At 7 o'clock, "the patient being much fatigued, a Dover's powder was given, which procured a comfortable sleep." * * * "At 11 o'clock, A. M., the opening had dilated somewhat, and the head could be more distinctly felt" * * * "there was much heat about the parts, and the scalp was corrugated." * * * At 6 o'clock, Monday evening, "the patient's strength was evidently giving way and her pulse rose to 140." The forceps were now employed, and, after a good deal of trouble, a living child was brought forth, 70 hours after the commencement of the labor and 30 after making the first incision.

Dr. Reynale's case was reported in the *Buffalo Medical Journal*, and copied into the *New York Journal of Medicine* for Nov., 1851. After the labor had continued 28 hours Dr. R. was satisfied that "there was no os nor cervix uteri; everything was perfectly smooth where the natural opening ought to have been, and I could feel," says the Doctor, "the child's head pressing down on the soft parts." Counsel was called. The vaginal speculum was used, and where the os uteri ought to have been a probe was employed, but nothing in the shape of the smallest opening could be found. All agreed that the os and cervix uteri were wanting, and that there was no natural opening for the child to pass through. An incision was made, and in two hours and a half the patient was safely delivered.

In the first of Prof. B.'s cases, we are informed that there was a sufficient amount of mechanical injury to produce entire organic closure of the os uteri. But we confess we should like to know what is the present state of the parts concerned, and especially whether the original os tincæ has, since the operation, remained pervious, or, in other words, whether the lady has since that time become pregnant. We have no doubt but the menstrual fluid might escape through an artificial opening in the womb; but that a female should become pregnant in that way is rather apocryphal.

In the second case of Prof. B., and in that of Dr. Reynale, there is no evidence of any disease, or inflammatory action of the cervix, that would in any way account for the closure. In Prof. B.'s case there was a rigid state of the neck, but in the other there was not even that.

What is the present state of these cases, and have these females, since the operation, menstruated or become impregnated?*

Is it not a little singular that, in all the cases of *entire occlusion* referred to by Ashwell, including those we have cited, there should be only three in which the closure was produced by any *apparent* disease of the parts concerned?

First.—The case of Mrs. P., in which there was evident congenital malformation, and in which we think there is reasonable doubt of perfect closure.

Second.—A case referred to by Dr. A., which we have not noticed and which is to be found in Gooch's *Lectures on Midwifery*, Phila. ed., page 182. Dr. G. says, "it sometimes happens that women become pregnant, in whom the os uteri has been destroyed by previous disease. A case of this kind was related to me by a gentleman on whose veracity I can rely, in which, after a miscarriage, extreme sloughing of the vagina took place, comprehending the os uteri, in place of which there was only a hard, contracted circle, as if formed by a cicatrix."

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* It is, perhaps, worthy of remark, that in no one instance in which an incision has been made in case of supposed perfect closure of the uterus, has there been any certain guide to the exact location of the os tincæ, and the section has therefore been made, as one of the reporters says, "where the os uteri ought to have been." In three of the five cases, the details of which are given by Dr. Ashwell (including Dr. Gooch's case), pregnancy took place after the operation, and a fourth died. In the cases which have occurred in this country, we have not been informed whether pregnancy has taken place or not. The operators in these cases must have been extremely fortunate, to hit the precise point of an obliterated os uteri three times out of five, without any guide. If this were not the case, we must necessarily suppose that the strong organic adhesions of the sides of the opening gave way of their own accord, hus enabling the organ to execute its natural functions in a satisfactory manner.

It is doubtful whether Dr. Gooch intended this case as an example of complete closure of the opening into the womb. Does he not confine his definition of "os uteri" to the opening into the neck of the womb, so that, if the neck be gone, the os uteri is consequently removed along with it? He speaks of the case as one of pregnancy taking place *after* the os uteri had been *destroyed* by previous disease; and that pregnancy can take place without an opening into the womb is not exactly a supposable case. The case is evidently one in which the muscular structure of the neck of the womb was destroyed previous to impregnation, and hence the necessity for an incision.

Third.—The first case reported by Prof. Bedford is the only one on record, so far as we have been able to discover, in which perfect occlusion has happened as a consequence of any injury or *apparent* inflammatory disease, occurring after conception had taken place.

Has any post-mortem examination ever been made that would show distinctly the fact, that organized adhesion of the entrance into the womb has ever yet taken place in the impregnated state? We have seen none.

We conclude, that although the operation of vaginal hysterotomy is almost entirely devoid of danger when properly performed, and at the proper period, yet it is one that is very seldom required, and that the circumstances calling for it will most frequently be found in diseased or abnormal conditions of the muscular structure of the neck of the womb; for instance, when the muscular structure of the cervix uteri is changed in character, or destroyed by disease or mechanical injury, or when there is congenital defect in it. This idea, we think, will be found to apply as well to cases termed rigidity of the os uteri as to those in which there is supposed to be an entire occlusion. We see no especial difference.

In the present state of our knowledge, and until some remedy can be found that will equalize the action of the uterus (so to speak) and produce "pains" which shall be both perfect and regular, it is possible that a case may occur in which incision will become necessary, to relieve some obstinate muscular contraction of the os uteri: such incision, however, would not ordinarily regulate the uterine action, and the probable result would be, delivery with the forceps.

ART. V.—*On the High Operation for Stone in the Female.*

By W. PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons, New York.

THE method of practicing lithotomy, by what is called the high or supra-pubic operation, has, since its first introduction into practice, about the middle of the sixteenth century, had strong advocates, and been at various periods frequently, and by some surgeons exclusively, performed. It has never, however, at any time, met with general favor, and as an operation has been considered proper only in certain exceptional cases.

Franco, who first operated in actual practice, did not advise the operation, although his case was successful. Rossuet strongly advocated this method, but never put it to the test of actual experiment. Côme practiced it frequently, and improved upon the methods of his predecessors. It was early introduced into England, and on its revival by Douglass, in 1719, it was practiced with such success by several London surgeons as to gain great favor. Cheselden operated successfully nine times in one season, and, when the high operation fell again into disuse, he remained its firm supporter. He remarks of his success:—"I lost no more than one in seven, which is more than any one else, that I know of, could say; whereas, in the old way (cutting on the gripe), even at Paris, from a fair calculation of above eight hundred patients, it appears that near two in five died." It, however, fell into complete disuse, though it was advocated subsequently by Carpue, Home, and others.

Of modern authors who have recommended this operation as preferable in general to any other, the most prominent are Dr. Souberbielle and Mr. Carpue. The former published a paper in the *Memoirs of the Royal Academy of Medicine*, Paris, 1840, on the operation of lithotomy, which contained his experience of the high operation. He had then performed it 39 times, and, of this number, 11 proved fatal, being a mortality of 1 in $3\frac{6}{11}$. Although this is a great comparative mortality, much exceeding that which follows the lateral operation, yet it must be considered that many of his cases were of the most unfavorable character, admitting of no other than the operation above the pubes. The opinion of one who has had so large an experience is entitled to great weight. "With certain exceptions, therefore," he says, "depending upon age and peculiar circumstances, I practice the high operation, and my preference for it is founded on reason and experience; indeed, by this method, calculi may always be extracted without reference to their size, their number, their situation, the condition of the prostate, etc.: the operation is less painful than any other mode of cutting into the bladder, and exposes the patient to the fewest casualties. The skin, the linea alba, the cellular tissue, and the bladder, are the only textures implicated in the section; whereas, in the perineum we encounter a variety of structures, which it is difficult to avoid, and the necessary lesion of which may give rise to hemorrhage, stercoraceous fistulæ, infiltration, impotence, etc., none of these dangers are incurred by cutting into the hypogastrium. The history of the post-mortem examinations of those who have sunk after the high operation goes to prove that the operation is never itself a cause of death, but that the fatal event has been the result of previous organic alteration or disposition to disease, whose origin was clearly not referable to the operation, which, indeed, would exercise no other influence upon it than that of hastening its development."

A very complete summary of the high operation is contained in a statistical article by M. Humphry, in the *Transactions of the Provincial Med. and Surg. Assoc.*, Vol. 17, p. 103. Introductory to his tables, he remarks:—"The feeling of surgeons, in this country more particularly, has been of late years very adverse to the high operation of lithotomy; so much so, that I am not aware of its having been performed in England since the unsuccessful attempts which were made in St. George's Hospital, soon after the favorable cases published by Sir Everard Home. That the lateral operation deserves the preference in by far the majority of cases, and that the high operation is to be accepted only as an occasional and disagreeable alternative, I need not stop to prove. The only question is, whether it is to be resorted to under any circumstances." * * The whole number of cases collected was 104, of which 31 were fatal, or less than 1 in 3. The results of this collection are not to be relied upon in estimating the fatality of the operation, for in the majority of instances it was selected, because the lateral operation was not admissible. The only method of estimating accurately the dangers of the operation is evidently where a certain number of cases have been taken indiscriminately. Chelius very justly says:—"If the advantages and disadvantages of cutting for the stone above the pubic *symphysis* have to be critically reviewed, this can only be done from the results which Douglass, Cheselden, Frère Côme, and Souberbielle, have kept, without distinction of the operations performed on a certain number of patients, both men and women, with small and large stones. These results are but little distinguished from those of the lateral operation." In this view the high operation has proved as successful as the lateral. Maund is said to have lost but 5 patients in 40 operations; Côme lost 19 in 100; Cheselden 1 in 7. The principal objections to this operation are the dangers of urinary infiltration, hemorrhage, and wounds of the peritoneum. These accidents, however, are rather due to the method of operating or the carelessness of the operator than to any *necessary* result of the operation. Urinary infiltration took place but once in the 39 cases reported by Souberbielle; hemorrhage but once in the same number, and this was owing to the idiosyncrasy of the patient; and in but two was the peritoneum wounded, and in neither fatally.

I do not desire from these remarks to appear as an advocate of the high operation for stone in general, but submit them as necessary to a correct appreciation of the comparative results of the operation. From this generally successful issue of the high operation, I have been led to practice it in a certain class of cases, where I deem it preferable to any other. I allude to calculus in the female. Notwithstanding the great number of methods which have been devised for performing this operation, there is as yet no prescribed course which may invariably be followed, to the avoidance of the many disagreeable consequences that often result. The same unsettled opinion has recently been expressed by Mr. Fergusson, in a lecture on *Calculus in the Female, (Med. Times and Gaz.).* He says:—"A very interesting and important problem remains yet to be solved—which is the best way of extracting a stone from the female bladder? I hope the time may arrive when a true solution will enable the operation to be performed without incurring the hazard or annoyance of an incontinence of urine, which, I am sorry to say, is but too apt to follow an operation involving the female urethra."

The solution of this question, as far as my own experience and practice are concerned, is, that the high operation is the safest method yet pursued. In the two most recent cases in which I have operated for stone in the female, the high operation was followed with the most satisfactory results. In both instances I took the precaution to hook up the walls of the bladder, after being exposed by the incision, before laying it open, and by this means effectually prevented urinary regurgitation and infiltration. I consider this a very important step, and one which ought never to be omitted. The following cases embrace my experience of this operation:

CASE 1.—Mrs. L., æt. 53, married, and the mother of ten children, had always resided in the interior of Ohio, and had invariably enjoyed good health until about four years previously to the time of her coming under my observation. Her first complaint was of suffering in passing water, the symptoms being those of urinary calculus. The physician in attendance had examined the bladder with the sound, and detected the presence of a stone. I was called in consultation, with special reference to the operation. As the patient resided some 80 miles distant from me, and her sufferings were becoming more and more aggravating, there seemed no alternative but the knife.

The stone was large, and I determined to perform the high operation. The operation was commenced by injecting the bladder with warm water. To accomplish this, the patient was placed upon the table in the proper position for lithotomy, and the fluid being slowly injected, an assistant pressed the urethra firmly against the arch of the pubes, to prevent its escape. This preparatory step having been taken, I proceeded to make an incision above the pubes, and extended it two and a half inches along the linea alba, cutting down to the bladder. I now opened the bladder with a pointed bistoury, which was followed by such a regurgitation of fluid through the artificial passage, that the assistant was directed to remove his finger from the urethra, and allow the contents of the bladder to escape. I then introduced the *brise-pierre* of Baron Heurteloupe into the bladder, through the urethra, and separating the blades, I raised the fundus towards the external opening, until I was able to reach it with the tenaculum. With this instrument, and the aid of an assistant, I kept the bladder firmly drawn up to the external opening. The incision not being sufficiently free, was now enlarged, and the finger being introduced, the forceps were readily carried into the bladder, and the stone seized and removed with great ease.

The operation was terminated by closing the upper portion of the wound, and leaving the lower part open to admit of the free escape of urine, or pus, and thus prevent infiltration. The patient recovered rapidly. The stone was nearly two inches in length, and one and a half in breadth.

Case 2.—Miss M., æt. 53, living in the country, consulted me for symptoms of calculus, which had existed for the last seven years. On examination, I found a large stone. The urine contained pus, and epithelial scales from the bladder; regarding this organ, however, sufficiently sound for the trial of lithotripsy, I proceeded to prepare her system for this operation, by vegetable diet, demulcent drinks, and attention to the bowels.

The operation was commenced by the usual injection of warm water. I then introduced the lithotripter, and seized the stone, but could not break it by the force of the hand. With the hammer, I succeeded in breaking off about one drachm, in small pieces. These were proved to be oxalate of lime, on applying proper tests. These attempts were repeated up to the ninth day, but with no success; and in the mean time the bladder had become inflamed with considerable constitutional disturbance. She was now kept quiet in bed, as all motion was attended by much pain.

In about three weeks the system became tranquil, and I proceeded to remove the stone by the high operation. The following were the steps of the operation which I performed:

First.—The patient was put fully under the influence of chloroform.

Secondly.—The bladder was injected with flax-seed tea, and owing to the system being under the influence of the anesthetic, the injection was introduced without any resistance, and the organ well filled.

Thirdly.—An assistant prevented the escape of the fluid, by pressing the urethra against the pubic arch.

Fourthly.—The pubes being well shaved, I made an incision along the linea alba, through the fat and muscles, until I reached the bladder.

Fifthly.—I now hooked strongly through the bladder, by large tenacula, and gave them in charge of assistants. I then punctured the bladder with a pointed bistoury, and made an incision about one and a half inches in length. No regurgitation took place. Upon my finger I introduced the ordinary nasal polypous forceps, and easily removed the stone.

Sixthly.—The assistant now removed his finger from the urethra, the fluid escaped, and the hooks were removed.

The upper part of the wound was closed with a suture and straps, the lower portion being left open for the escape of any discharge. The operation was performed on the 12th of October, 1853, and on the 22d she was able to sit up. The result was very satisfactory.

Case 3.—Patient was Mrs. E., æt. 47, a widow. This lady had suffered from a stone in the bladder, until she could hardly move about; and at the time she came under my observation, her sufferings were intense. The urine was alkaline, and loaded with pus and blood.

I ascertained that I could do nothing with the lithotripter, and accordingly advised an operation as the only hope of relief. She at length made up her mind to submit to the operation, and sent for me for the purpose of having it performed.

On the 25th of August, 1854, I operated according to the plan laid down in the preceding case, and notwithstanding the amount of disease of the bladder, the patient improved greatly, and three months after she was comfortable, but had a slight opening above the pubes, from which pus, at times, escaped.

Art. VI.—*An Analysis of the Symptoms of twenty-one cases of Meningitis in the adult.* By J. Lewis Smith, M. D., Physician to the Northwestern Dispensary, New York.

Perhaps there is no inflammatory disease so vaguely written upon, or so little understood, as inflammation of the arachnoid and pia mater. This arises chiefly from the fact that this inflammation usually coëxists with that of the dura mater, or cerebral substance, or with disease elsewhere, modifying and obscuring its symptoms, and, perhaps, changing its course.

My purpose, in this paper, is to determine whether the books give a correct account of this disease, and to this end I have collated, as far as possible, records of primary meningitis, and secondary, where the primary disease seemed so mild as not to produce any material modification in the patient's condition.

My investigations have been restricted to adults, from the reflection that in them the symptoms may be different from those in childhood; and in order to avoid those numerous cases of acute hydrocephalus, which is especially a disease of early life.

The whole number in my collection is only twenty-one, as, for various reasons, I have rejected most of the recorded cases of this disease. Of those published in Abercrombie's celebrated treatise, I employ only one; the rest, with the exception of a lady, in whom the disease was combined with inflammation of the ear, being either children, or else showing, after death, merely a vascular condition of the membranes. Vascularity, with or without serous effusion, may indicate, it seems to me, simply a state of congestion; and I find that Dr. Watson, of London, objects to these cases of Abercrombie, on this ground.

The French writers, as Andral, give minute records of meningitis, but most of the cases published by them present such complications, that I have not dared to use them.

Records where the patients recovered, and several such are found in the journals, have also been rejected, in the belief that we cannot yet make a positive diagnosis of meningeal inflammation from the symptoms. Only such cases have been employed as showed after death a lymphy deposit on or under the membranes.

Before proceeding to the analysis, a word should be said of the so-called cerebro-spinal meningitis, an epidemic disease, which has prevailed in various parts of Europe, as

Gibraltar and Strasburg, and in our own country. The pathology of this disease is not yet understood,—some considering it a local, others a constitutional affection; and there has been a corresponding discrepancy in the treatment. Whatever may be its nature, it is evidently very distinct from the sporadic inflammation, and cannot properly be considered with it.

In nine of the twenty-one cases, the cause of the disease was not apparent. Perhaps, in some of these, a more minute autopsy would have discovered a morbid process, to which the inflammation was secondary; for the best pathologists agree that secondary meningitis is more common than primary. If, in any of them, such disease were present, it was no doubt mild, to have escaped detection. Five had tubercles in the membranes, in the midst of the inflamed surface, and in four there were tubercles in the lungs, and not elsewhere. Meningeal inflammation has been frequently noticed to accompany phthisis; and as post-mortem examinations often reveal the inflammation, without the presence of tubercles to excite it, the tubercular *diathesis* has been properly called the cause of the meningeal disease. When tubercles are found on the membranes, they, no doubt, in some instances are deposited during the inflammation, just as pneumonia may cause the first tubercular deposition to take place in the central or lower part of the lung, instead of its usual seat, the apex.

In one case, the meningitis seemed to arise from erysipelas of the neck and scalp, in one from intemperance, and in one from reaction after profuse hemorrhage. From the records, it does not appear that the primary and secondary forms differed in any important particular. On the average, the symptoms, both in kind and intensity, seem to have been about the same.

Determining the duration of the disease has been somewhat difficult; but dating from the commencement of well-marked cerebral symptoms, as headaches or delirium, I find, in fifteen cases, the period to vary from one to thirty-three days, with an average of fifteen. In one other case, the time seems pretty accurately fixed at three and a half months, including an interval of improvement.

Symptoms.—Headache was one of the most common, generally severe, but sometimes slight. It is recorded in fourteen cases, in all of which it began the first day, and continued till the patients sank into delirium or coma. In no case is its absence recorded.

One only had convulsions. This man was a soldier in the French army at the time of its retreat from Moscow, subsequently to which he was subject to epileptic attacks. An autopsy of all the viscera showed no disease except the meningitis.

How the opinion has become so prevalent, that inflammation of the meninges gives rise to convulsions I do not know, but presume it is because this disease is most common in childhood, and convulsions usually attend this as well as other encephalic diseases in early life. Perhaps English and American physicians have derived their knowledge of diseases of the brain and membranes more from Abercrombie's treatise than any other source; and, as we have said, nearly all the cases in his collection were children. He gives the opinion that "the more common form in which the attack takes place, is by a sudden and long-continued paroxysm of convulsions," alluding to an attack of meningitis. On the contrary, our analysis clearly shows that convulsions are not a symptom of this disease except in childhood, and this correction should be made in our standard works.

A rigid and flexed state of the upper extremities was present in one case, in one trismus, in another paralysis of one side of the face, in another of an arm, and in four of an entire side.

Delirium was noticed in fourteen cases; in three coming on in the commencement of the disease, in the others not till near the close of life. It is not stated whether the remaining seven were delirious, so that if this symptom were present, it was probably of the passive kind.

Vomiting, so common in the acute hydrocephalus of childhood, occurred in only six cases, and in these, with one exception, not till the disease was well advanced.

The pupil in six cases was dilated during the comatose state, and in two others, before the development of coma, it was contracted, the condition during coma not being mentioned. Besides these, four exhibited some unnatural appearance of the eye, as strabismus, occurring, probably, from effusion. In the remaining cases the condition of this organ is not recorded. In one instance where the pupils were dilated, thirty leeches were applied to the neck, and while the bites were still bleeding contraction took place. This goes to show that simple congestion may cause dilation, which may not, therefore, be always so grave a symptom as is usually thought.

Retention of urine was present in six cases, and incontinence in one.

The pulse in seven was under eighty till near the close of life. Of these, three were phthisical, two had headache for two years, and one for life, one had had pain for a considerable time in the lumbar region, the cause not being apparent, and in the other the inflammation appeared to be primary. Three had a pulse varying from 80 to 100, two were phthisical, in the other the inflammation was primary. Three had a pulse over 100, of whom two were consumptives. The thought may occur, whether this discrepancy in the condition of the pulse may not have been due to compression from the effused fluid. A compressed state of the brain will, in many instances, prevent acceleration of the pulse, though the inflammation is intense. But this explanation does not answer, for the symptoms of compression were generally absent till near the close of life. It is better to consider this diversity due to a difference in the grade of inflammation, as is the case in the inflammation of other serous membranes.

The mode of death in sixteen cases is given, in all by coma, varying from a few hours to two or three days. Generally the effusion of serum and lymph seemed sufficient to cause the coma.

The seat of inflammation in seven cases was the base of the brain, in four the convexity of one hemisphere, in three the upper surface of both, and in two the entire meninges. In the remaining cases the seat of disease was not recorded accurately, though the deposit showed undoubted inflammation.

From this analysis the following conclusions may be drawn:—

1st. That a common cause of meningitis is the tubercular diathesis.

2d. That if in any of these cases the inflammation was primary, and not dependent on a diathesis, it did not differ materially from the secondary form either in gravity or duration.

3d. That meningitis usually commences with headache.

4th. That convulsions are not a symptom of it.

5th. That delirium is present in the majority of cases, occasionally early, but generally not till the disease is far advanced.

6th. Vomiting does not occur till a late stage of the inflammation, and then in only a moderate number of cases.

7th. The pulse differs in different cases, and is, therefore, the less reliable as a means of diagnosis.

8th. Paralysis sometimes occurs at a late stage of the disease, but generally there is no contraction or rigidity of the limbs.

9th. That the mode of death is by coma. It is not our object to speak of the treatment, as all the cases were fatal, and in no instance did the remedies differ materially from those recommended in the books.

Art. VII.—*Remarks on the Diseases of Oneida County, N. Y., in* 1854. (Read before the Oneida County Medical Society.) By John McCall, M. D., of Utica, N. Y.

The last season was one of deep and abiding interest to our profession, and the great community generally, from the fact that the heat and drouth of the last summer exceeded in those particulars all former seasons, as far as my memory serves me.

The diseases which fell under my observation and care, were, in some respects, unlike those of former seasons. This was true of fevers and bowel complaints. In all cases there was manifestly more loss of physical and mental power than usual, even with those persons who fortunately escaped sickness; and this was especially true in the cases of illness which came under my care.

Early in the season we met with sundry instances of mild forms of fever, remittent and intermittent, requiring, or at least receiving from me, but little medication, especially of the active or heroical character.

Bleeding, vomiting, or "catharticising" the bowels, in the language of a former "heroic member of the trade," were not used or advised by me; nor was bleeding resorted to in a single instance.

And here let me caution you not to be surprised, when I assure you that I have not bled a patient from the arm during the last fourteen years; and rarely have I leeched or cupped during that time.

In the treatment and management of diarrhœa, dysentery, cholera morbus, and cholera infantum, I have less to say than may be expected of me. In truth, I have but little to communicate on that subject. I relied much on confining my patients at once to their beds. There I often bound them down, if I may use the term, as if they were insane, and required strait-jackets, and in no instance allowed them to be up until their complaints became cured. Bathing, cleanliness, and pure air, with a rigid system of diet, just sufficient to sustain the vital forces, were pursued in all cases; medicines in small doses, administered at long intervals, constituted the chief means of treatment.

In several severe cases of dysentery, cholera morbus, and cholera infantum, recoveries took place unexpectedly among old and enfeebled persons, as well as in young and delicate children.

A few of these cases gave me much solicitude and apprehension. I can only say I have never been so fortunate in any one year of my practice; for, as strange as it may seem, I have lost only two patients, both of whom died of pulmonary consumption. One was a young lady who had fallen into my hands only a short time before her death, and who had been an invalid some time before that event. The other was a man of intemperate habits, who sent for me only a few weeks before his death.

This experience of good fortune is stated, not as evidence of superior skill or success, but simply of good luck.

In a few instances, I had from one to two or three members in the same family sick with a grave form of typhus fever. These cases occurred in June, July, August, and September.

The first case in one of these families was that of a young man, a member of the bar, who had never before sickened with that or any other form of fever. He came down suddenly and severely on the 27th June, with great loss of muscular and nervous power, and more or less delirium, almost from the first visit I made him. This was a case of typhus fever of the worst form, as I regarded it; as evidence of severe lesion of the brain and nervous system, there was bleeding from the nose and bowels, great embarrassment of respiration, pulse exceedingly compressible, and ranging from 125 to 135 in the minute; tremulousness of the hands, low muttering, delirium, picking the bed clothing, and indistinct and difficult articulation, so much so, at times, that his father could rarely or hardly understand him. His illness continued thirty-four days. My friend, Dr. Dering, attended this case with me, and gave me much valuable counsel. His mother, and a few others of the family, afterwards came down with the same disease. Those who fell sick in the same house all recovered; but some three or four others of the family sickened afterwards with the same fever in Long Island, after returning there to their home by my advice. These, too, recovered, but a maiden lady, an aunt to the young man whose case I have detailed, and two of the colored members of the family residing upon the Island, sickened and died of the same fever.

One of the patients, who fell sick in the same house here, soon after the mother of the young man came down, with the same disease, was an Irish girl, at service. She remained some eight days speechless, and immovable as a block, with stiffened limbs, lying always on her back, the urine and fæces passing off involuntarily, or, rather, unconsciously. Some portion of the time she was unable to swallow even water. She, however, slowly recovered in about four weeks. Her breathing was less embarrassed than in some of the other cases, and I took care not to disturb it with too frequent or liberal means of medication. In this I acted in accordance with the advice of an old medical friend, who jocosely said that his patients all died "because they would not breathe." This may, perhaps, be a new pathological revelation to some of us.

It may be asked, what medicines I used in these cases? I answer, none worthy of notice; for I allowed the *vis medicatrix naturæ* to do the work of recovery, only now and then aiding her with courage and patience. Mine was a course of non-medication, in the view of some members who have more faith than I have in their necessity or efficacy.

Really I cannot say any thing satisfactory to such members in favor of my practice. I must say, however, that I gave no cathartics, and only in a few instances advised an emetic.

Wine, sparingly administered, with other supporting means, were used in most of the cases; and I am of the opinion that my system of tee-totalism would hardly have saved them from sinking.

We are obtaining new revelations, every now and then, as we examine honestly and carefully the great volume of Nature. We may be said to be "born again" every few years; and a medical man, I think, is not fully born and grown up to full manhood, philosophically and medically considered, until he attains the age of fifty. Medical, like political bigots and fanatics, have but one birth, and that often premature and fruitless. Now, the more I see of the human economy, in health and disease, the more highly I appreciate its restorative powers. And if I have obtained any share of success in my management of diseases, I am free to give her the credit, and only claim the merit of having had some wisdom, in thus trusting and simply aiding her when she required assistance.

It may be expected that I should say something of the much dreaded cholera; but, as I had no well-marked cases of that disease, or if I had, my inexperience, or the recovery of my patients, would not allow me to give them that name, I have, therefore, little or nothing to communicate in relation to that matter. Possibly I may have forgotten some of the true characters of that disease since its appearance in our city in 1832, when I was its Health Officer. As I saw none of the cases in which it is said, and no doubt truly, to have occurred in our city, I cannot say a word as to their character, or means of treatment.

In conclusion, let me remark that we are assembled where the first meeting of our Society took place, in July, 1806, nearly 49 years ago, just after the passage of the first important legislative enactment regulating, in our State, the practice of Physic and Surgery.

The names of members who convened on that occasion are found in our book of minutes.*

Who now of that number remain in our "rank and file"? Half a century cuts down a whole generation. Where will be found the three, now marching onward through the journey of life, in 1860? Gone to their long home!

But these are sad thoughts, and I turn from the subject to express a hope that we will continue to exert ourselves as an association of brothers, and labor, for the future, more earnestly for the good of our race, and the honor and usefulness of our noble profession.

Art. VIII.—*On the Cause, Nature, Cure, and Prevention of Epidemic Cholera.* By M. L. Knapp, M. D., late Professor of Materia Medica, and President of the College of Physicians and Surgeons of the University of Iowa; late Professor of Obstetrics and Diseases of Women and Children, in Rush Medical College; Author of "Lectures on the Science of Life Insurance," etc., etc.

[Continued from page 111.]

The topography of Pittsburgh is such that the extremest impressions of heat and cold must, inevitably, rest on the city proper. Other things being equal, therefore, Cholera should break out there before either in Birmingham or Alleghany City. The city proper, lying in the forks of the Alleghany and Monongahela rivers, is of the shape of an obtuse heater, or spread fan, with the point southwest. The surface rises to hills, soon, northeastwardly, so that the sun's rays at 2 o'clock, p. m., are direct upon the face of the city. Underneath the hills skirting either river is a narrow strip of low ground, and the strip along the Alleghany, bounding the city on the west, constitutes the fifth ward, and is exposed to the direct rays of the whole afternoon sun and reflection from the cut and quarried hills back of it, heating it like an oven. This ward is populated wholly by the poorer classes and operatives in the iron manufactories. The Cholera was ten to one the most severe and fatal in this ward. Still it raged on the high grounds of the city also, which lack not for direct insolation, and are most reduced in temperature by upward radiation and cooling breezes at night. Alleghany City and also Birmingham are more protected by the hills from the direct rays of the sun than Pittsburgh, and Alleghany City in particular appears to enjoy a further advantage, in its better adaptation to the culture of vegetables and fruits.

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* The names marked thus * are all whom I know to be living, though I believe Alexander Whaley is of that number.

Amos G. Hull, Sewall Hopkins, David Hasbrouck, *Seth Hastings, Jr., Caleb Sampson, Francis Guiteau, Matthew Brown, Jr., Welcome Sayles, Elnathan Judd, Shearman Bartholomew, Marcus Hitchcock, Isaac Weston, Thomas Harturle, *Laurens Hull, Zenas Hutcheson, Alexander Whaley, Morris Shannon, Paul Hutcheson, Jr., Eliphaz Bissell, Seth Capron, Daniel Arey, John Fitch, Enoch Alden, Stephen Preston, *Arba Blair, Thomas G. Hooker, Norton Porter, Seth Hastings, Samuel Frisbee.

Having ascribed the general prevalence of Cholera this season to the exorbitant prices of provisions, I will here present the prices of the Pittsburgh Market, furnished me by Mr. C——, proprietor of the Monongahela House. "Beef, 11 cents per pound; mutton, 8 cents per pound; lamb, 75 cents per quarter; chickens, 31 to 50 cents per pair; butter, 45 to 75 cents per pound; eggs, 14 to 20 cents per dozen; Irish potatoes, $2 50 to $3 00 per bushel; sweet, or Carolina potatoes, $2 50 per bushel; tomatos, all very bad, $1 50 to $2 00 per bushel; corn (roasting ears), 25 cents per dozen; onions, $1 25 per bushel; turnips, none in market; apples, $1 50 per bushel. Large quantities of diseased potatoes were sold in market just before the breaking out of Cholera, at $1 25 per bushel. Vegetables generally have been poor."

I visited the Markets on the morning of the 26th, and passed through two large and commodious Houses, well supplied with choice meats, but not a potato, turnip, tomato, or other succulent vegetable, apple, peach, or other fruit of any description whatever, on sale or to be seen at either Market! This is a more forcible commentary on the power and influence of medical opinion for evil than could have been anticipated. It shows very clearly that the prohibition of vegetables and fruits has not been over-estimated by the writer as an unfortunate blunder of the Profession, protracting and aggravating every epidemic visitation of the disease.

Case 1.—Monday, September 25, 9 o'clock, a. m., through the courtesy of the Board of Health, visited, with Dr. ———, a middle-aged German woman in the fifth ward, in the collapsed stage of Cholera, the patient speechless, pulseless, senseless, and cold as in death. The case had had no treatment. On examining the mouth, the objective signs of scorbutus were found most unequivocally manifest in a puffy and livid condition of the gums, pale flabby tongue, especially towards the edges, which bore the impressions of the teeth. This was considered a hopeless case, but the punch, with quinine and morphine added, was prescribed, as the patient was not past swallowing. The case terminated fatally in a few hours, and was only instructive as affording testimony of the presence of the scorbutic diathesis in the patient.

On examination of the other members of this family, six in number, all showed the objective signs of scurvy in different degrees, by the crimson line along the dental margin of their gums, tongues furred centrally, and pale and smooth laterally, paleness of countenance, inertia of feelings, despondency and dejection of spirits. One suckling woman, in particular, exhibited the signs of the scorbutic diathesis most prominently of all. They were enjoined to drink punch daily, and to make a free use of vegetables and fruits in their dietary.

Case 2.—Mrs. O'Connell, a young married Irish woman, living in Miltenberger's Alley, was visited at half-past 9 o'clock, A. M. She had had a diarrhœa of two days' standing, which she described as being of characteristic rice-water appearance, and frequent—had vomited a few times only since having thrown off from the stomach, at about 1 o'clock at night, the meats she had eaten for her supper, in a sour, undigested state. Her constitution seemed unimpaired. She was sitting up, but complained of sinking, and great weakness. The pulse was feeble, the skin cool and dry, and the countenance pale.

On looking into this patient's mouth, the most perfectly displayed *early* characteristic signs of scorbutus presented, that it has ever fallen to my lot to witness. The mucous membrane of the entire mouth was pale, the tongue furred centrally, and pale and smooth laterally, the gums *pale* and *contracted*, save and except the most vivid *crimson*, I should say almost *vermilion line*, of less than the sixteenth of an inch in breadth, ornamented their dental margin, inside and out, festooned around every tooth, and the teeth all perfect in each jaw. These characteristic signs of the scorbutic diathesis were examined by Dr. ——, who visited the case with me. The following prescription was made:

℞.—Acid. cit. ʒi.
Quinæ Disulph. gr. v.
Morphiæ Sulph. gr. j.
Spt. Vin. Gal. ℥ iv.
Sacch. Alb. ℥ i.
Aquæ. Oij. m. f. sol.

S. Take a wineglassful every fifteen or twenty minutes, according to the urgency of the diarrhœa and vomiting.

The patient was ordered to keep her bed, and to have a pot of soup made by boiling a cut of fresh beef-steak, potatos, turnips, onions, carrots, etc., together, flavored with savory herbs, and well seasoned with salt and cayenne pepper. This to be partaken of freely, and as hot as it could be supped, at the earliest moment it could be prepared. At 12 o'clock, M., the patient was visited again: she had followed directions, had taken the medicine several times, and supped a small bowl of soup. All disposition to vomit had ceased—the diarrhœa was much less urgent, and although no reaction was yet apparent, it was evident the case was doing well. Medicine and soup to be continued. At 2 o'clock, P. M., saw the patient again, and found her in a gentle glow; the skin soft and moist, the pulse full, the diarrhœa entirely checked, and feelings of perfect ease and general comfort were manifested by the patient.

At 9 o'clock on the following morning visited the the patient again, in company with the physician in ordinary, and found her up and making her bed, feeling well. She expressed the greatest joy in being allowed the free use of vegetables and fruits. On examining the mouth, the crimson line at the margin of the gums was greatly faded. The husband and an unmarried sister of the patient exhibited none of the objective signs of scorbutus.

Case 3.—Passing up Smithfield street, saw a young man in an alley vomiting. Took him to the office of the Board of Health near, and examined his mouth with Dr. ——; find it in a very scorbutic state—tongue furrowed centrally, pale laterally, and *the gums puffy and livid all over.* He has had diarrhœa two days, and has taken two or three glasses of brandy this morning to check it—is partially inebriated. He refuses to take medicine if prescribed, finally consents to take a glass of soda water and suck a lemon. This case not seen afterward, and is only presented as disclosing the objective signs of scurvy in cholerine.

On the morning of the 26th, I repaired to the Mercy Hospital, bearing a note from the Rt. Rev. Dr. ——, desiring that I might be facilitated in making medical investigations in the Institution. Every facility was thus obtained, and marked civilities shown me by the Sisters of Mercy, and the visiting physician, (no resident physician then in the Hospital) who arrived soon, and went his morning round, giving me a hurried history of the cases in the Cholera ward, and leaving me to investigate them at my leisure. My views of the nature of Cholera were briefly explained to the physician before he left the house, with the request that he would make observations, and test the value of antiscorbutic treatment. Five consecutive hours were then spent in examining the following cases, comprising *all* the Cholera patients in the Hospital under treatment, and one in the convalescent ward. All the cases were admitted under fully developed Cholera, bordering on, if not in collapse, as per the testimony of the physician.

CASE 4.—Cornelius Shanahan, aged 20, admitted a week since, now convalescent, mercurial odor present—the gums are spongy, swollen, and livid all over—petechiæ, in the early or efflorescent stage, sparsely scattered over the sides of the neck and arms—skin on the outer sides of the arms and legs, and also the palms of the hands, covered with white furfuraceous scurf—the lividity and swollen condition of the gums far exceed that which should result from the slight ptyalism present—no salivation or spitting—patient says he has eaten little or no vegetable food this season.

CASE 5.—Mrs. Mary McStay, aged 28, has an infant at the breast, attacked two days since, admitted yesterday—four cases of Cholera occurred in the house where she boarded—thinks there was a reasonable supply of vegetable food—dejections not watery or copious, and no vomiting—patient not emaciated—not much Cholera aspect in this case—no mercurial odor. It should be observed that the treatment of the Cholera cases is routine—all the patients are put under the administration of two grains of calomel, combined with opium, quinine, and capsicum, every two hours, or until vomiting and purging cease. Of course the appearances in this patient's mouth are not modified by the effects of mercury, having been less than one day under treatment. On inspecting the mouth, I find the tongue coated with yellowish-white fur, and the sides red and granular-looking, or rough—there is an intensely red line along the dental margin of the gums, and they are beginning to assume a red and softened appearance all over—no petechiæ or abnormal appearances on the skin. A bilious-cholera-scurvy case, lactation aiding its development, and a panic bringing it forth too soon.

CASE 6.—Louisa Hines, aged 17, admitted a week since—is from the County Jail; which, it appears, is made use of as a Penitentiary, *alias*, House of Starvation, where she had been confined three months on bread and water, and soup twice a week, the Jail fare—no potatoes, turnips, cabbages, or other vegetables, nor fruits of any description allowed! The cholera, of course, broke out in this prison, and a general jail delivery ensued. Many of the cases came to the Mercy

Hospital, and Louisa is one of three only that remain alive! The prison is certainly a disgrace to the City, County, and State. The constitution of this patient is sound—the skin is normal, and, save paleness of countenance, and the *scorbutic crimson line* tied around the teeth, this patient appears, otherwise, all right. There is no ptyalism or mercurial odor—the gums are *pale and contracted*, except at their dental margins, and the mucous membrane of the mouth generally is very pale. These appearances are *pathognomonic* of scurvy.

Case 7.—Mary Anne Groff, an old German woman, but a few weeks in America—husband and son have died of cholera in this epidemic. This old lady has only two teeth in her mouth, her system is not in the least affected by mercury, but the gums surrounding her two teeth are puffed up fully a quarter of an inch thick—the rim of the edentulous gums is normal—the tongue is furred on the centre of the dorsum, and very pale and flabby laterally—skin dry and scurfy—red petechiæ on both legs, and discolorations of fading purpura all over the calves—many minute red petechiæ on arms, and sking enerally.

Case 8.—Mrs. Myers, aged 45, a butcher's wife—husband has had Cholera, and is now in the convalescent ward. This patient is corpulent (as a butcher's wife should be), and insensible from congestion of the brain—under treatment six days—no ptyalism or mercurial odor—gums swollen and puffed up half as thick as my finger, and livid as a piece of liver—skin all over the body, especially limbs and back, besprinkled and bespattered with petechiæ, and bloody chops, which ramify extensively in zigzag bundles and fantastic spangles and clusters, interspersed with large ecchymoses or patches of purpura. In numerous places the blood has oozed through the chops or cracks, and can be scratched off with the nail in the form of dried blood-scabs. The purpura patches, or ecchymoses, on this patient's legs, are as large as my hand, and of bacon-rind or mummified appearance. Here is scurvy in a fat subject produced by meat eating; and when the serum of the blood was leaking through the chops in the mucous tissue of the stomach and bowels, and being vomited and purged off, it was a case of Cholera.

Case 9.—Isabella Merritt, aged 25—the dietary of this patient has been bread, meat, and coffee, generally—seldom eats any vegetables—has had excessive palpitation of the heart and weakness for a year—has not eaten any vegetables or fruits of any description for more than three months past, except cabbage on two occasions—breath betrays the mercurial odor, and her mouth generally, and swollen, livid gums, in particular, give indubitable evidence of the scorbutic diathesis—no petechiæ.

Case 10.—Mary Ellen Daily, aged 25—admitted three days since—has had diarrhœa since early in August—mucous membrane of the mouth chopped and excoriated in patches—gums display the crimson line along the dental margin, but are not yet puffy—recent petechiæ of every size, from mustard seed to buck shot, are scattered over limbs, face, and body—the petechiæ are perfectly round, not raised or papillated, and not capable of being felt by the touch—they are pale crimson, disappear under pressure of the finger, and return instantly on removal of the pressure—no mercurial odor of the breath—tongue getting dry, with tendency to coma, or typhoid symptoms.

Case 11.—Edward McDowell, aged 28—admitted a week since—is from the jail—was an inmate of the prison fourteen months—has had diarrhœa since February—dietary of the prison, bread and water, and soup twice a week, Wednesdays and Saturdays, but patient seldom partook of the soup, finding it produced an aggravation of the diarrhœa—an affection of the heart came on after being in the jail five months, which has troubled him greatly ever since—has had great irritation of the throat since February—has picked out five or six of his teeth since April with his fingers—mouth displays the objective signs of scurvy in an eminent degree—there is great pallor of countenance and a universally anæmic appearance—there are numerous petechiæ on the skin, and the back is mottled with walnut-colored marks of desquamated bullæ of the size of buck shot and rifle balls, too numerous to count, the epidermis hanging to some of them. In June and July the patient had bloody discharges from the bowels, in May and June vertigo and palpitation were most distressing. The authorities by which the Pittsburgh jail is upheld are entitled to a premium for this, the "best" case of Cholera seen.

Case 12.—James Hall, aged 20—admitted two days since—has worked all summer in a brick-yard—has had no potatoes or turnips at all for four weeks, and none, indeed, worth mentioning for four months—pork and beef, and bread and coffee have constituted his dietary. Skin dry, scurfy, scaly or furfuraceous, particularly on the extremities—gums very much puffed up or swelled, and livid as liver—tongue clean and flabby—countenance pale—no petechiæ to be seen on legs or arms, back not examined—no odor of salivation—sound, with the exception of scurvy.

Case 13.—Wm. Campbell, of middle age—admitted on yesterday—insensible from congestion of brain and I can gain no information as to his mode of life—gums very red and swollen—petechiæ in their red stage sparsely scattered over the limbs and body—no Cholera symptoms present—moaning and jactitation and deep sighing—eyes inflamed—face red—has probably been a hard drinker.

Case 14.—John Tammany, aged 28—admitted three days since —has had an ague this (Tuesday) morning, and is now in the sweating stage—no Cholera symptoms present—has worked in an iron furnace in Ohio, this season, where all around him had ague and fever—came to Pittsburgh a week since, but had not had a chill for four weeks—wrought one day in Pittsburgh, and on the next day, which was Saturday last, was taken with a chill and vomiting and purging, and was brought to the hospital—says he had good diet in Ohio, meat and potatoes, etc., but not much vegetable food during May, June, and July—in July sickened of bilious fever—has had an extensive and troublesome eruption of sores all over his legs, which leaves the skin marbled, and of a dark chocolate or slate color wherever there has been a sore—a cicatrix of large size on one leg, is dark walnut color, or bacon-rind appearance—there are a few petechiæ or flea-bite specks sparsely scattered over his arms, say a dozen on each, well marked—the gums are swollen and livid all over--countenance very pale—no mercurial odor—the objective signs of scorbutus, and the symptoms of a quartan ague are all the morbid phenomena that are left of this case of Cholera.

Case 15.—Thomas Clennin, aged 30—admitted two days since, or on Sunday—felt sick on Saturday while traveling on foot from Washington, Pa.,—thinks he has eaten of new potatoes a few times since they came in, but for five months has lived on ham, eggs, beef, bread and coffee—mercurial odor in his breath—has lost most of his teeth and also his palate, which he says occurred five years ago from medical treatment in Baltimore; under mercurial salivation his teeth came out and his palate sloughed off! The gums surrounding the teeth that remain in this patient's jaws are very puffy and livid—tongue pale and flabby—no petechiæ are visible on arms or legs, back not inspected. A very much broken-down subject—doubtless had scurvy when he suffered the loss of his teeth and palate—says he never had the venereal disease—scurvy and mercury are all that ail him now.

Case 16.—James T. Parsons, aged 32—admitted a week since —came from the jail—was three months there—mouth modified by treatment—tongue red and clean—gums very much swollen and livid and blood oozes from their dental margins on slight pressure of the finger—breath fœtid, but odor not mercurial—numerous crimson colored petechiæ are scattered over his face, neck and arms, and some of them are papillated to the touch—large blotches of purpura on the arms.

Case 17.—John Donohue, of middle age—admitted on Friday last—choleraic symptoms mild from the first, and soon disappeared—at present there is a universally icteric state—tongue furred in the centre and pale laterally—gums very red and puffy—no mercurial odor—no petechiæ on arms or legs—back not inspected. Jaundice and scurvy are all that are visible, and the former is not more characterized by the pathognomony of the skin, than the latter of the gums.

Case 18.—George Brandstatter, a German immigrant of about 50 years of age, just arrived in this country—admitted on yesterday—objective signs of scurvy very prominent in this patient's mouth, as seen in the livid spongy gums, and pale flabby tongue—no petechiæ on arms or legs, back not inspected. This patient is vomiting and purging still, and is sinking rapidly into the stage of collapse—would be gratified to put him under the administration of the hot punch and hot soups, or the rational treatment, to staunch the hemorrhage and afford materials for new and healthy blood, but cannot interfere.

I must here pay a merited tribute to the Choir Sisters who officiate in this hospital. One or other of the three, all evidencing the highest order of intelligence, insists on accompanying me at the bed of every patient, to give the history of the cases, uncover the limbs and back for inspection, and in every way facilitate my investigations. In some instances, as with this patient, it would be impossible to effect my object without this kind assistance, so fearlessly rendered over these repulsive cases.

Case 19.—John Wheely, aged 21—a German immigrant just arrived—admitted on yesterday—still vomiting and purging—gums very red and puffy all over—tongue furred centrally and pale laterally—no petechiæ discernible.

Case 20.—C. J. Smith, a young man from New York—admitted over a week since—he is now in the convalescent ward, having surmounted the hemorrhagic tendency of the disease that gives rise to vomiting and purging, yet is in no other sense cured—his gums are frightfully abnormal in appearance—look as if beaten and bruised and puffed up from the injury—the tongue is clean and red, the mouth throughout modified by treatment—general appearance very anæmic. The dietary allowed the convalescents is milk and bread, and soups, with rice, but without succulent vegetables. This young man came to Pittsburgh about two months since, and has hardly partaken of any succulent vegetable food since he arrived here. Several other convalescent Cholera patients whom I have examined in this ward, exhibit the same objective signs of scorbutus in an eminent degree, and their history prior to admission discloses the same absence of succulent vegetable food in their dietary. It is unnecessary to detail these cases.

The analysis of twenty cases of Cholera, then, discloses the fact, that every case was a case of scurvy, not a solitary exception, in, or out of the hospital, comprising *all* seen. This is a remarkable announcement; nevertheless, remarkable as it may seem, every word of it is truth. Had not the physical evidences of scurvy been present in *every* case, I should have marveled. The appearances which I have described will be found in all cases of true Cholera, and will henceforth be noticed by all practitioners in all parts of the world. Why they have been so long overlooked, why they should have escaped my observation heretofore, *generally*, and, where noticed in 1849 and '50, a complication of diseases only should have been inferred, is a matter of as much astonishment to me as it can possibly be to others: but such are the facts. Why I have now been made the humble instrument of explaining the matter, is doubtless due to circumstances rather than to extraordinary penetration, or superior professional attainments. It has been a hard and difficult task to divest my mind of the false notion of some specific, poisonous influence, *overlaying* scurvy, even since I have been fully aware of the scorbutic diathesis *underlaying* Cholera. It may be difficult for others, even yet, to see clearly: but if, as appears by our analysis, every case of Cholera occurs in a scorbutic subject, or in other words, that Cholera is a messenger of death riding *always* on the time-honored steed scorbutus, it matters but little what be the theory as to the office or entity of the messenger—if we destroy the steed, the rider will get on but poorly. This we know how to do. But I can see no occasion now to search for further cause of Cholera than the causes producing scurvy, no phenomena in Cholera other than what harmonize with the known laws of scurvy, and nothing at the bed-side after the hemorrhagic action is arrested but the physical evidences of scurvy, neither do the books describe any anatomical lesions contradictory to this view.

In conclusion, if I have not explained every thing pertaining to the subject in this brief monograph, I have given the key that will explain every thing when the laws of scurvy shall be perfectly understood, and it is a consoling reflection that nations, cities, and families can hereafter enjoy protection or immunity from the scourge of epidemic Cholera, by simply conforming to the natural laws in regard to diet. The proofs presented, that Cholera is a modified form of scorbutus, are as strong as physical proofs can be, or as strong as inductive reasoning can present; as strong as that the sun is the centre of the solar system, and that the earth and the other planets revolve around it: all the phenomena admit of explanation by the theory—the theory tested by practice proves effectual. *Why* scurvy is thus modified, (it always was a Proteus,) has constituted no part of these researches. This will be a subject for further reflection with the writer. The laws of scurvy have yet to be investigated by modern observations, researches, and statistics. The scorbutic diathesis may yet be found to hold a more special relation to *all the zymotic diseases* than has heretofore been suspected. Medical meteorology, or the constitution of the seasons, (abridgment of the crops and fruits by blights,) holds a direct relation with the state of the public hygiene; and it is to this *tangible* cause of disease, and not to an imaginary *malaria*, that we are to turn in search of the laws governing epidemics. With a rational pathology, treatment, and prevention made known, Cholera is divested of all its terrors. Sanitary regulations can now be instituted that shall meet its invasions at the very threshold, in ship, camp, or city, and the public mind be so indoctrinated by suitable publications on the subject, that every family may know in what constitutes its safety; in fine, the true philosophy so disseminated that the wayfaring man, though a fool, need not err therein.

PART SECOND.

CRITICAL ANALYSIS.

Art. IX.—*A Practical Treatise on Foreign Bodies in the Air-passages.* By S. D. Gross, M. D., Professor of Surgery in the University of Louisville; Member of the American Philosophical Society; Author of "Elements of Pathological Anatomy," "A Treatise on the Diseases of the Urinary Organs," etc., etc. With illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo., pp. 468.

We have been repeatedly assured, by the leading medical publishers of this country, that they find no class of works so unprofitable as those devoted to specialities. "Compendiums," "Vade Mecums," as a general rule, meet with an extensive sale, and hence the greater frequency with which they are presented to our notice. Practitioners may plead, as an excuse, their want of leisure to peruse more elaborate treatises, but, however satisfactory this may prove to their own consciences, it can but feebly atone for the loss of patients, who, with a knowledge to be derived only from such treatises, might have been rescued from death. We have been strikingly impressed with this view of the subject, by the perusal of the volume before us. After alluding to the defects of systematic works on surgery, in regard to the facts which form the basis of the present work, and to the sources from which those here collected have been derived, our author remarks:

> If, in the providence of God, the work shall be instrumental in saving the life of one human being, or even in ameliorating the suffering of a single individual, I shall feel myself amply remunerated for the time and toil bestowed upon its composition. If there be any situation better calculated than another to awaken our sympathy, it is when we see before us a fellow-creature who is threatened, every instant, with destruction, in consequence of the lodgment of a foreign body in the air-passages, without the ability to expel it, or the power to inflate his lungs. It was this reflection which first induced me, many years ago, to turn my attention to the subject, and which has finally impelled me to write this treatise.

His design, originally, was not to write a book, but to compose a short monograph for some medical journal. This imperfect idea of his task, however, was soon dissipated, and he found, to do it any thing like justice, it was necessary to devote to it much time and study. The result is now before us, and "whatever judgment may be pronounced upon it, I trust that I may be awarded at least some credit for my effort to improve a most interesting, and, hitherto, a most neglected department of surgical pathology and practice."

Chapter I., embracing some fifty-five pages, is devoted to general considerations on the nature of foreign bodies that may enter the air-passages; the alterations they may undergo in these passages; their situation, manner of entrance, and of expulsion. These substances he has arranged into different classes, according to the nature of their composition, as the vegetable, animal, mineral, and mixed. Under each of these heads, of course, an almost infinite variety may be found, from a melon seed, or half-sovereign piece, to the jaw-bone of a mackerel, or larnyx of a goose. Several foreign substances may occasionally enter the air-tubes, either simultaneously or successively,—an instance of the latter having occurred in the practice of our author. Foreign bodies, of a vegetable or animal nature, under the joint influence of the heat and moisture of the surface with which they lie in contact, may become so expanded as to seriously embarrass the surgeon in his attempts to extract them. If lodged in the bronchial tubes, they may become incrusted with various kinds of matter, as, for example, inspissated mucus, lymph, and earthy substance, the latter generally consisting principally of carbonate and phosphate of lime, cemented by a little animal matter.

Our author refers to the absurd notions entertained by some practitioners, respecting the softening power of the air-passages on these substances.

Such notions, for they are nothing else, might be dismissed with a smile, if it were not for the mischievous tendency which they are calculated to produce in the minds of the thoughtless and unwary. We might as well wait for the softening and disintegration of the rock of Gibraltar by the waters of the Atlantic and Mediterranean, as for the softening and disintegration of a persimmon stone, and a piece of gristle, by the heat and moisture of the air-passages.

That this process may, however, sometimes occur, and the foreign body be ejected in separate fragments, or *en masse*, we may learn from the cases reported by our author himself. But *to trust* to so remote a contingency, would, indeed, be most culpable.

Professor Gross has taken special pains to examine the facts which bear upon the question, as to the *relative frequency* of the situation of foreign bodies in different portions of the air-passages, and has satisfied himself that the prevalent opinion, that they more frequently lodge in the right bronchial tube, is well founded. He awards to Mr. Goodall, of Dublin, the credit of having first furnished us with the true explanation of the cause of this circumstance. This is not, as was, until recently, supposed, owing to the difference in the diameter, length, and direction of the two tubes, but depends upon the peculiar position and arrangement of the septum at the root of the trachea. This septum is situated to the left of the mesian plane; hence, the foreign body, in its descent, by striking it, is pushed over towards the right side, and its entrance is still further favored by the greater diameter of the right bronchial tube. A wood-cut is given, to afford us a more perfect idea of the arrangement to which we have alluded.

We pass over Chapters II. and III., which are devoted to the consideration of the immediate pathological effects of foreign bodies, and which contain information of an interesting and practical character.

Chapter IV. treats of the symptoms of foreign bodies. The distressing nature of these is familiar to all; but cases now and then occur, in which there is an *absence* of symptoms, or they are of such an equivocal nature as to perplex the most experienced practitioner. Even Sir Benjamin Brodie, in one case, expressed the opinion that the affection was merely a chronic cough, from which recovery might soon take place! Mr. Renauldin found a fragment of a nail in the lung, and yet during life no symptoms denotive of its presence had existed. In some instances, the profuse and purulent character of the expectoration may lead to the suspicion of the existence of pulmonary phthisis, which is likely to be still more confirmed by the emaciation and exhaustion which follow. But we can only glance at the contents of this chapter, in which the whole question is examined in its minutest details.

In the next chapter we find some general observations on the *diagnosis* of foreign bodies. After remarking that, occasionally, the most thorough examination of the patient and the most minute inquiry into the history of the case fail to afford the requisite light for the formation of a correct opinion, he adds:

> The rule, in all cases of this kind, is to act in the most prompt and efficient manner, on the well-known principle that, although the foreign body may not immediately prove fatal, yet the longer it is retained in the parts, the greater will be the probability that it will ultimately destroy the patient, by keeping up an amount of irritation, the effects of which the respiratory apparatus and the system at large cannot, permanently resist.

Auscultation and percussion, though frequently affording important information, do not always enable us to detect the true nature of the difficulty. In the memorable case of Mr. Brunel, these means completely failed; and our author has collected numerous other examples, bearing upon the same point.

Nor is it always possible to determine whether the offending substance is in the larynx, or some other portion of the windpipe. After a careful examination of this question, Professor Gross remarks:

> From the above cases, few as they are, and imperfectly acquainted as we are with their histories, we may, nevertheless, conclude, as a general rule, that whenever there is aphonia, whether partial or complete, the foreign body is situated in the larynx; at all events, there is a strong probability that this is the case; a probability which is converted into perfect certainty, if, conjoined with this symptom, there is pain, soreness, or uneasiness in the region of the larynx, along with dyspnœa, a whistling sound in respiration, absence of serious disease in the bronchial tubes and lungs, and inability, on the part of the observer, to perceive the offending body moving up and down the trachea.

The voice, however, may be seriously affected, and yet the foreign body not be lodged in the larynx. In the case where Mr. Liston removed a piece of bone impacted in the right bronchial tube, dyspnœa, noisy and stridulous breathing, were among the prominent symptoms. In that of the child which was brought to Dupuytren, on the fifth day after inhaling a bean, there was complete aphonia, although the substance was perceived playing up and down the trachea, from which it was removed by an operation.

When the foreign body descends from the larnyx, it is usually arrested in one of the bronchial tubes, by which the respiratory murmur in the corresponding lung is generally more or less affected. Percussion frequently elicits an nnaturally clear and resonant sound, as in pulmonary emphysema. Professor Gross is of the opinion that we have no means of positively determining when the offending substance is permanently arrested in the trachea.

> The number of such accidents is exceedingly limited, and the phenomena attending them have not been studied with sufficient accuracy to justify us in deducing from them any special conclusions. Mr. Cæsar Hawkins,* of London, has attempted to prove, by the citation of several cases, amongst others, by one occurring in his own practice, that when the extraneous substance is lodged high up in the trachea, or partly in the trachea and partly in the larynx, the nature of the

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* *Medico-Chir. Trans. of London,* vol. xiii., p. 105, 1840.

affection will be evinced by the entire absence of cough, by the integrity of the voice, by the constant whistling sound in respiration, by the fixed soreness, pain, or uneasiness at the seat of the obstruction, and by the ability of the patient to laugh, speak, and eat, as if nothing had happened. . . . Although the foreign substance, in several of the instances herein analyzed, was permanently arrested in the trachea, yet, inasmuch as no definite statement is given of the symptoms in any of them, no use can be made of them in illustration of the present topic. I have presented a faithful outline of the facts adduced by Mr. Hawkins, in order that the reader may be able to draw his own conclusions. They are certainly entitled to attentive consideration; but whether they warrant the opinion which he has based upon them, is a question that can be determined only by future and more extended observation.

Chapter VI. treats of the spontaneous expulsion of foreign bodies, and under this head a number of curious and interesting cases has been collected, which were followed by recovery. The examples of the spontaneous expulsion of pieces of coin are rare, and but one is mentioned in the table. Dr. Geoghegan has reported another, in the *Dublin Medical Press*, Oct. 11, 1854.

Nails are mentioned in four of the cases in the table. Dr. Watson, of London, and Drs. Brown and J. Mason Warren, of New England, have reported cases of spontaneous ejection of carpet tacks; and in the *Montreal Medical Chronicle*, October, 1854, Dr. Crawford, of the McGill College, has reported another example, in which the tack was expelled after remaining in the trachea for nineteen days.

A statistical table is given, containing forty-nine cases of the spontaneous expulsion of foreign bodies from the trachea, in which recovery followed. These cases are afterwards detailed in full. Another table is given, containing eight cases of spontaneous expulsion, followed by death. A complete account of each of these is also presented.

We have neither time nor space to dwell upon the medical treatment in these cases. Although the foreign body has been occasionally expelled by means of emetics, sternutatories, inhalation of iodine, etc., etc., yet they are worthy of but little reliance.

Of late, inversion of the body has been not unfrequently employed by some of the most distinguished European and American surgeons. It is liable to one serious objection, viz.: it may cause the suffocation of the patient by exciting spasm of the glottis. This may be guarded against, by bronchotomy, as was practiced by Sir Benjamin Brodie, in the case of Mr. Brunel. Unsuccessful cases, of inversion alone, have been reported by Dr. J. Mason Warren, Professor Eve, Dr. Hoyt, Mr. Luke, Bransby B. Cooper, Dr. O'Reilly and others. An abstrac of these cases is furnished by our author.

We have now reached the most important part of Professor Gross's Treatise, viz.: *The surgical treatment of foreign bodies in the air-passages.* The cases are exceptional in which the methods already noticed have proved successful, and while the extraneous substance remains in the windpipe, the patient is in constant danger of suffocation, or of perishing from inflammation and its consequences.

The proper practice, therefore, is, in all cases, without exception, to perform bronchotomy as soon as possible after the occurrence of the accident. The artificial aperture effectually prevents spasm of the muscles of the larynx, and thus enables the patient to breathe with greater freedom, at the same time that it permits the foreign body, if it do not escape at once, to play up and down the air-tubes with comparative impunity. In many cases, however, the foreign substance is expelled as soon as the windpipe has been properly opened, being often projected to a considerable distance from the patient's body. In general, it escapes at the artificial orifice, but sometimes it passes through the glottis, and is either expelled by the mouth, or it descends into the stomach. The ejection is occasionally delayed for days, weeks, and even months after the operation, and even after the closure of the wound. Under such circumstances, a second and even a third operation may become necessary, as in several of the cases mentioned in this treatise.

The history of bronchotomy is preceded by some very interesting anatomical and physiological considerations of the parts involved in the operation. Our author has made some experiments on animals, to ascertain the influence of chloroform upon the sensibility of the different portions of the air-tubes. "As I had been led to anticipate from my observations upon the human subject, every particle of feeling seemed to be destroyed, and the probe could be pushed freely up and down the passages without exciting the slightest uneasiness. In fact, the animal seemed to be wholly unconscious of what I was doing, even when the instrument was carried most rudely into the larynx up into the fauces."

Professor Gross is of the opinion that, if it be possible to employ tracheotomy, the larynx should seldom be opened, on account of the difficulty in the diagnosis of foreign bodies in this portion of the air-tubes. An opening midway, or nearly midway, between the sternum and the larynx, places the operator in sufficient proximity with each extremity of the canal, and affords him every possible facility in extracting the foreign body, no matter what its situation. In the operation, if it be found impracticable to avoid the division of the isthmus of the thyroid gland, serious hemorrhage may be avoided by embracing the part in two ligatures, and then carrying the knife between them. In the report of the case of spontaneous expulsion of a coin, as given by Dr. Geoghegan in the *Dublin Medical Press*, Oct. 11, 1854, this gentleman states, that he has found that the division of the isthmus of the thyroid body is not necessarily accompanied by hemorrhage, unless there exist disease of the gland itself.

Professor Gross considers the use of a canula after the operation highly objectionable.

It is difficult to perceive the philosophy of a practice, the inevitable effect of which must be to prevent the ejection of the foreign substance by opposing a mechanical obstacle to its ascent in the windpipe. In using it, the caliber of the trachea must necessarily be materially diminished, and the patient compelled to breathe through one opening instead of two, as when the parts are left to themselves. Again, if the canula be employed to arrest hemorrhage by compressing the edges of the wound, that end may be quite as readily and as advantageously attained by the use of the blunt-hook hereafter described. Considering that the object of the operation is the expulsion of the offending body, nothing should be done after it has been performed to delay, much less to prevent, so desirable an event. On the contrary, every effort, consistent with the patient's safety, should be made to promote it; and for this purpose the wound, as was before stated, should be maintained in as free and unembarrassed a condition as possible.

The use of chloroform in this operation, he remarks, cannot be too warmly praised. He recommends its administration not only during the operation, but during the extraction of the foreign body, with the view of controlling cough and spasm of the windpipe, which often most seriously embarrass our proceedings.

Most valuable instruction is given us as to the best methods of extracting the foreign body, and numerous illustrations are furnished of the different instruments employed for this purpose, as well as of those to which he gives the preference.

The difficulties and dangers of the operation are next most ably considered. Of these, hemorrhage is most to be apprehended. In laryngotomy, of course, this risk is slight; but in tracheotomy it has proved fatal in the hands of the most eminent surgeons. The various sources from which it may proceed are fully discussed, and wood-cuts given to show the anomalous branches found in the tracheal region.

Our author offers many judicious remarks respecting the dressing and after-treatment, observing at the same time that they may appear to some trivial, if not useless; but such can place very little estimate upon the results of surgical operations, and the value of human life.

The treatment after the operation, whether followed by the removal of the extraneous body or not, is a matter of paramount importance, and, should, therefore, always receive the special consideration of the professional attendant. The foreign body may have been retained for days before the windpipe is opened; but, even where this has not been the case—where. indeed, it has been expelled, even within a comparatively short period after its introduction—there is always danger of severe inflammation of the lungs and air-tubes; and it is for this reason, that the practitioner should always be on the alert, carefully watching his patient lest the disease, thus awakened, should progress, and finally, before he is conscious of it, gain the ascendancy.

The remaining portion of the volume is devoted to the details of cases in which laryngotomy, tracheotomy, and laryngo-tracheotomy have been followed by the expulsion of the foreign body and the recovery or death of the patient. Several cases are likewise reported in which a repetition of the operation was required, and others, in which no foreign body was found, although the symptoms were strongly denotive of its presence. The work concludes with a chapter on bronchotomy in the inferior animals, and a general summary based on the facts and cases therein collected. Throughout, as we have attempted to show, it abounds with the most valuable practical information, and we venture to assert that no one could have been selected more competent to fulfill the task required than Professor Gross. An indefatigable student, of vast experience, and possessed of a mind preëminently qualified for "arranging, analyzing, and tabulating the isolated and scattered facts of Medicine and Surgery," he has produced, as might have been expected, a volume worthy of his high reputation.

G. C. B.

BIBLIOGRAPHICAL NOTICES.

Art. X.—*Illustrated Manual of Operative Surgery and Surgical Anatomy.* By MM. Ch. Bernard, D. M. P., and Ch. Huette. Edited with notes and additions, and adapted to the use of the American Medical Student, by W. H. Van Buren, M. D., Prof. of Anatomy, Univ. Med. Coll., etc., and C. E. Isaacs, M. D., Demonstrator of Anatomy, Univ. Med. Coll., etc. Illustrated with steel engravings, from drawings after nature, by M. J. Leveille. New York: H. Baillière, 290 Broadway, and 219 Regent street, London. Paris: J. B. Baillière, Rue Hautefeuille. 1855. 8vo. pp. 513.

We have had occasion to notice heretofore the appearance, with short intervals, of the first two parts of the *Illustrated Manual of Operative Surgery*, by Bernard and Huette, edited by Drs. Van Buren and Isaacs, of this city. We now have the pleasure of announcing the publication of the third and concluding part of this splendid work, and its presentation to the profession in one nicely bound and portable volume.

This is incomparably the most beautifully illustrated work ever presented to the American practitioner. It is, indeed, what the editors very properly claim "a complete and concise picture of the science and art of Operative Surgery, in its present advanced and perfected condition." Every instrument, from the simplest to the most complicated, is represented, and the various steps of every form of operation are accurately and vividly delineated. The text contains a concise but accurate description of the various operations pursued or recommended, and the volume being thus left unincumbered with tedious details and speculations, its value as a manual is greatly enhanced. The part borne by the editors is limited, the additions to the text being wisely confined to a few explanatory foot-notes.

The first thirty pages and twenty-five plates are occupied with a description and illustration of the various instruments employed in operative surgery. These embrace every variety of instrument used in incision, ligature of arteries, amputation, exsection of bones, trephining, for the eye and ear, in laryngotomy and tracheotomy, for removal of nasal polypi, in operations about the fauces, pharynx and larynx, intestines, hernia, anus, penis, urethra, vagina, uterus, etc., etc. They are all *modèles Charrière*, and nothing can exceed in delicacy and accuracy the artistic execution of the plates. Following these, we have illustrations of the minor operations, as venesection, closing wounds, etc. The eleven succeeding plates are devoted to the *ligature of arteries.* This portion of the volume, relating to some of the most common and yet important operations in surgery, is exceedingly instructive. The dissections are accurately and extensively drawn, and exhibit as satisfactorily as anything but actual dissection can, the relative anatomy of the parts concerned in each individual case.

The next subject is *amputations;* first, amputations in the contiguity of limbs; second, amputation in the continuity; and third, exsections. Following this, is the operation of *trepanning*, with a representation of the relative position of the intercranial arteries. Operations upon the eye and its appendages are fully and minutely illustrated, as also those upon the ear. No special work on these branches, within the reach of the practitioner, contains nearly so complete a picture of ophthalmic and aural surgery. With equal fidelity we have represented the various operations upon the lips, nasal passages, nose, tongue, tonsils, salivary apparatus, soft palate, æsophagus, trachea, etc. Next, we have pictured the operations on the breast and chest, as removal of the breast, paracentesis of the thorax and pericardium, etc. Then follow operations upon the abdomen, paracentesis abdominis, gastrotomy, opening abscesses of the liver and ovarian cysts, treatment of wounds of the abdomen, intestines, etc.

The operations for hernia, one of the most important divisions of operative surgery, are here displayed with all the reality and accuracy of which art is capable. The surgical anatomy of the parts which these tumors involve, so necessary to be understood by the operator, leaves nothing to be desired as regards illustrations. The remainder of the volume is occupied with operations upon the anus, penis, scrotum, urethra, bladder, and the female genitals, with a section on tenotomy. They embrace artificial anus, hemorrhoids, fistulæ, varicocele, hydrocele, lithotomy, lithotrity, operations upon the uterus, etc.

We feel that it is impossible in the notice of an illustrated work like this to give the reader a just impression of its character. Admitting of neither analysis or review, we are left to express an almost unqualified opinion of our appreciation of the volume, which he may or may not accept as conclusive. We do not hesitate, however, to express the *unqualified* opinion, that this volume surpasses in artistic execution any work on operative surgery ever presented to the profession in this country. Its convenient and portable form, being an ordinary octavo, commends it strongly to the attention of the country surgeon.

For further information in regard to this, as also other works, the reader is referred to the advertising sheet of this Journal.

ART. XI.—*Lectures on Histology, delivered at the Royal College of Surgeons of England in the Session* 1851–2. By JOHN QUEKETT, Professor of Histology. Vol. II. *Structure of the Skeleton of Plants and Invertebrate Animals.* Illustrated by two hundred and sixty-four wood-cuts. London: Hippolyte Baillière, 219 Regent street, and 290 Broadway, New York. 8vo. pp. 413.

THE first volume of Mr. Quekett's *Lectures on Histology* appeared in 1851, and was then made the subject of a brief notice in this Journal. This volume was limited to a description of the principal tissues of vegetables, including three belonging to animals, viz.: simple membrane, fibrous and cellular tissue. The present volume embraces the hard tissues, and is almost wholly occupied with the Rudimentary Skeleton of Invertebrate Animals. These embrace the Sponges, Zoophytes, Mollusca, etc., and of the Articulata, Entozoa, Insecta, etc., etc.

The study of Histology has been prosecuted abroad with a marked degree of enthusiasm, and this science has consequently undergone, within the past few years, a corresponding advancement. In this country, unfortunately, a far less degree of attention has been directed to subjects involving laborious study and minute and long-continued investigations. We deem this state of things unfortunate, because we have among us minds, that, if properly directed during their pupilage, would cultivate these more abstruse studies with a generous enthusiasm, and explore the now uncultivated fields of physical science in this country. The fault rests with our medical schools. These institutions shape and direct the course of medical study, and give bias to the medical mind of our country. And it is gratifying to observe an increasing disposition in our colleges to make their courses of study more thorough, and give more prominence to microscopical studies. The influence of this instruction is already beginning to be perceived, in the increasing demand for instruments and text-books on microscopy.

To the class of students who are advancing in the study of microscopical science the *Lectures* of Mr. Quekett are of great value. The style is clear, the objects observed are, many of them at least, easily procured, and the illustrations are numerous and excellent. No work has recently appeared more deserving the attention of the student of natural and medical science.

Art. XII.—*The Principles and Practice of Obstetric Medicine and Surgery, in reference to the Process of Parturition; with sixty-four Plates and numerous Wood-Cuts.* By Francis Ramsbotham, M. D., Fellow of the Royal College of Physicians, London, Obstetric Physician to the London Hospital, etc., etc. A new American Edition, revised by the Author. With Notes and Additions, by William V. Keating, M. D., A. M., Lecturer on Obstetrics and Diseases of Women in the Philadelphia Medical Association, etc., etc. Philadelphia: Blanchard & Lea. 1855. 8vo. pp. 648.

An interesting feature in the history of this work is the appearance of a new American edition, prepared expressly by the author, without a corresponding English edition. This tacit but expressive compliment to the author is duly acknowledged in the preface to the volume. Aside from the sanction which the rapid sale of this work gives to its merits, and adaption to the necessities of the practitioner, we would add our own word of commendation. The principal feature which characterizes the work, is a system of well-executed plates, sixty-four in number, which thoroughly illustrate every branch of simple, complex and operative midwifery. In addition to this, the text embraces a complete and comprehensive exposition of the present state of obstetric medicine, and the authority which pertains to the writings of Dr. Ramsbotham is sufficient guaranty of the correctness of the doctrines inculcated. The author has made some important additions to the present edition. Dr. Keating has added many valuable notes, tending to make the text more clear, or dissenting from the opinions of the author. This volume, made so complete by its plates and copious text, may now be regarded as one of the best guides in the practice of midwifery to which we have access.

Art. XIII.—*Principles of Physiology;* designed for the use of Schools, Academies, Colleges, and the general Reader; comprising a familiar explanation of the Structures and Functions of the Organs of Man, illustrated by comparative reference to those of the inferior animals. Also, an Essay on the Preservation of Health, with fourteen quarto plates and over eighty engravings on wood, making in all nearly two hundred figures. By J. C. Comstock, and B. N. Comings, M. D. New York: Samuel S. & William Wood, 261 Pearl-street, 1855. Quarto, pp. 110.

This is by far the best illustrated work of Physiology, designed for schools and popular reading, with which we are acquainted. The plates are all accurately drawn and most of them are beautifully colored, while the text is clear and concisely written.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On a prevailing form of Chronic Pneumonia. By Dr. Cotton. —After a brief comment upon the increasing frequency of chronic diseases within the last few years, the author entered upon the description of a peculiar form of low or chronic pneumonia, which has extensively fallen under his notice at the Consumption Hospital. The old and the young, the strong and the feeble, are, with nearly equal frequency, the subjects of the disease. There is, at the commencement of the attack, very seldom any local pain; neither is there dyspnœa nor much cough. The expectoration is scanty, or, perhaps, entirely wanting; the rust-colored sputa, so characteristic of active pneumonia, being but rarely observed. The pulse is at first very slightly affected, seldom exceeding 80 or 90 in the minute; and there is little symptomatic fever. Every symptom of the disease, indeed, is of a passive character, scarcely exciting the apprehension even of a medical attendant. It may thus continue for weeks, or even months, until a little local pain or slight dyspnœa, or a severe and intractable cough, with perhaps some emaciation and night perspirations, lead to a suspicion of something more formidable than the dyspepsia or the bronchitis, to which hitherto the symptoms had probably been referred. The author was of opinion that, under early and judicious treatment, the great majority of cases may recover; but that too often the disease either degenerated into true pulmonary tuberculosis, or ended in a fatal softening or breaking up of the pulmonary structure. He dwelt particularly upon the importance of an early and careful examination of the chest; stating that dullness on percussion, but not bronchial respiration, and little if any change in the external appearance of the chest, were the characteristics of the early stage; the breathing becoming weaker, and marked by subcrepitant rhonchi; and the thoracic parietes undergoing contraction as the disease advances. He had very rarely indeed heard the *fine crepitation* of more acute pneumonia. Dr. Cotton considered that, in the early stage, the lung was simply engorged; that, at a later period, it was the seat of an albuminous or fibrinous exudation, which, in cases still further advanced, had undergone the softening process. He illustrated these statements by briefly narrating cases in point. He was anxious to distinguish the disease he was describing from pleuropneumonia, which he considered was usually a more severe and acute seizure, although he believed that now and then the one may pass into the other. When the attack was of recent date, cupping or leeching were recommended; but if, as generally happened, the stage of engorgement were passing away before the case came under treatment, counter-irritation with blisters, and subsequently with stimulating and iodine liniments, was specially advised: the author, indeed, considered this practice of equal or even greater importance than any other part of the general treatment. Mercury in moderate doses, (except in cases evidently associated with phthisis,) with, in some instances, antimony, and general expectorants and sedatives, were the appropriate remedies for the early periods of the disease; slight mercurial action, together with tonics, being suited for the more advanced and chronic stages. Amongst the latter class of medicines, the author particularly spoke of the iodide of iron and cod-liver oil, either separately or in conjunction; the iodide of potassium, quinine, and steel. Whatever medical means were resorted to, he insisted upon the great importance of hygiene; stating his conviction that healthful and happy associations, with thorough physical and mental relaxation, together with a liberal and nourishing diet, should ever form a part of the physician's prescription.

In the discussion which followed, Drs. Glover, Camps, Andrew Clark, Theophilus Thompson, Gibb, Radcliffe, and Ryan, and Messrs. Ross and Hinton, took part. Dr. Glover believed that the affection described by Dr. Cotton was the same disease as had been so well described in *Guy's Hospital Reports* (vols. for 1837 and 1843) by Dr. Addison. It often closely simulated pneumonia and phthisis, but it was really an albuminous infiltration of the pulmonary tissue, and was most commonly met with in the middle portion of the lungs.

Treatment of Plastic Bronchitis. By T. B. Peacock, M. D.—In the cases of acute plastic bronchitis which come under the care of the medical practitioner at the commencement of the disease, the aim should be—1st, to relieve the inflammatory symptoms; 2d, to assist the expulsion of the membranes when formed; and 3d, to prevent their further formation. These indications should be accomplished by a judicious employment of antiphlogistic measures, regulated by the urgency of the symptoms and the power of the patient. It would be necessary to cup or apply leeches over the affected part of the chest, to exhibit antimony, and to affect the system mildly with mercury. The expulsion of the membrane might be assisted by the use of emetics, and by inhalations of the vapor of water, or of etherial or other fluids; and the further formation of the membrane would probably be best controlled by mercury. In the later stage, the use of anodynes and tonics would be required.

The use of mercury in conjunction with other antiphlogistic means is strongly recommended by Drs. Gordon and Banks; and Dr. Thierfelder, while he says little benefit results in the acute disease from a purely antiphlogistic course, approves of the employment of depletion in combination with mercurials. He also regards mercurials, the hydrochlorate of ammonia, and the iodide of potassium, as beneficial in the chronic form of the disease. The latter remedy he employed, in the treatment of the case which he has related, in very large doses. Dr. Watson, in alluding to a case of plastic sputum, which was attended with hæmorrhage to an alarming extent, remarks, that though the case seemed at first to call for active interference, and was in consequence energetically treated, on looking back upon it, he regarded the treatment as having been unnecessarily active; and the remark seems applicable to a large proportion of the cases of this description. Though alarming in their first appearance, they often do not seem to require very active measures for their relief. In those cases in which the disease becomes chronic, or recurs at intervals, on any exacerbation of bronchitic symptoms, protection against the weather, and, if possible, residence in a warm climate, should be enjoined.—*Med. Times and Gaz.*

Treatment of Gout. By George Budd, M. D.—The treatment of gout is very plain. Some of our best authorities make it very short indeed, and will tell you, "patience and flannel" will do every thing; but if gout is thus neglected, lithate of soda settles in the smaller joints, and the disposition to gout is encouraged; I would rather advise, when you get the disease in time, with fever, hot skin, full pulse, and gout well-marked. give calomel and colocynth first, with the ordinary senna draught followed up by carefully administered doses of colchicum. You may give the *acetic extract* gr. i. ad. ad. ii. omni nocte, or the *vinum sem. colchici.* Of the latter you must not give more than a drachm a-day.

It is most important for you to learn how to give colchicum; it is a very powerful remedy, and accumulates in the system. You should give vin. sem. colchici gtts. xx. ter in die, in the ordinary saline draught; but not with alkaline solutions. The latter may be given in the intervals, but alkalis are said to decompose colchicum, or you may give the colchicum at night, and the bicarbonate of potash in the day. Camphor mixture, cinnamon-water, etc., may be given with the colchicum and small doses of the spts. nitri. dulcis; this and the aq. acet. ammoniæ will act on the skin, and liver, and kidneys, and thus assist in eliminating the noxious matters of the blood which assist, if they do not alone assist, in generating this terribly painful disease. We need not give formulæ, as every case will require prescriptions adapted specifically to itself. As a matter of prophylaxis, the physician should advise patients to avoid drinking largely of malt liquors or bad wines; indigestible and unwholesome food also are to be proscribed.

In inflammatory gout you should attend also to the digestive organs, but above every thing malt liquors should be given up; I have known two or three patients make marvellous recoveries by this simple expedient alone. The Bath waters at one time enjoyed a great reputation for curing gout; now, all the world that can do so, go to Weisbaden, where many remarkable cures are made; to these waters I would add gentle tonics, preparations of steel, preparations of bark, the liquor cinchonæ without acid; an overdose of colchicum is known by the patient complaining of nausea; if pushed further, he will have vomiting and diarrhœa, and very remarkable depression of pulse to 50 or even to 40; if there be headache the dose is too large; we should not give colchicum where there is already diarrhœa or irritable bowels; when given it should be continued till after the gouty inflammation has disappeared, in small and vanishing doses. The limb affected, I need hardly remark, should be wrapped in hot wool, or hot flannel, or, what I have found useful, fomented with the hot alkaline fomentation.—*Med. Cir.*

Treatment of Irritable Stomach in Phthisis.—Several very pleasing cases, illustrative of the good effects of hydrocyanic acid and bismuth in the treatment of irritable stomach in phthisis have recently been under observation among the out-patients at the City of London Hospital for Diseases of the Chest. The patients had been long subject to nausea and attacks of vomiting, and were quite unable to retain cod-liver oil on the stomach, very often rejecting also ordinary food. The mixture prescribed consisted of 3 minims of the hydrocyanic acid and 10 grains of the trisnitrate bismuth made into a draught with mucilage and green-mint-water, and taken thrice daily. By its aid several patients have got quite rid of their troublesome stomach symptoms, and are now taking the oil easily and with benefit. The class of cases best suited for this treatment are those in which the tongue is generally clean, and in which the disease is undue irritability rather than disordered function.—*Med. Times and Gazette.*

External Employment of Aconitine.—An interesting case of painful stump is now under the care of Mr. Hilton, in Guy's Hospital. Its subject is a stout muscular man, whose right hand was removed after an injury some time ago. Ever since the amputation he has suffered most severely from neuralgia of the ulnar nerve, which has quite prevented him from using the stump. The pain was also increased by the least motion. Mr. Hilton ordered the application of an aconitine ointment over the course of the nerve. The ointment consisted in two grains of the alkaloid to an ounce of lard. Very great benefit speedily resulted, and when the man left the Hospital a short time afterwards, the pain had been so completely relieved, that he could use his arm most actively without producing any uneasy sensation. The cure, however, was not permanent, and a month after his discharge the man was re-admitted. Mr. Hilton did not think it advisable to trust him to use the ointment continuously, and as nothing less seemed to keep the pain in abeyance, it was decided to excise a portion of the ulnar nerve. The operation was performed last Tuesday, a little below the elbow, an inch and a quarter of the nerve trunk being cut out. The case is of value, as showing what the effects of the ointment might be in cases in which the neuralgia was due to a transitory cause. Mr. Hilton has also under care a man suffering from irritable bladder, in whom the same ointment has been had recourse to. By frictions over the loins and sacral region great relief has been obtained, and the man who was formerly passing his water every few minutes can now retain it for an hour at a time.—*Ibid.*

Cases of Ulceration of the Stomach, inspected at Guy's during the year 1853.—Dr. Habershon concludes his paper (*Medical Times and Gazette*) thus:—The cases I have thus briefly narrated present ulceration of the stomach in some of its several forms.

1. Aphthous ulceration, minute very numerous ulcers, perhaps coming on but a short period before death, and closely allied to a second form, or hæmorrhagic erosion, or gastritis folliculosa of Cruveilhier, and the perforating ulcer, which occurs not unfrequently in young persons, in whom, with an almost healthy mucous membrane as to external appearance, a small ulcer has led to circular smooth opening into the peritoneal cavity, and speedy fatal results. This is an important class of disease, although no instance is recorded in this paper. It is probable that depressed nervous power, with disordered secretion or irritating food, lead to this condition. 3. Simple ulceration, arising in connection with inflammatory condition of the mucous membrane, and often associated with congested portal or hepatic circulation. 4. Chronic ulceration, often terminating by perforation, or, as one of the cases narrated, by exhaustion. 5. Chronic ulceration, arising probably from some corrosive or irritating substance administered, and leading to destruction of the mucous membrane, and subsequent contraction. I have avoided functional diseases of the stomach, and those which are of a carcinomatous character; but I trust that the contrast of these several cases may not be without interest, and will, I doubt not, suggest interesting questions as to their treatment and pathology, beyond those which have been incidentally alluded to in the detail of these cases.

The treatment which I have seen most efficacious in many cases of ulceration of the stomach, has been the administration of food of a simple, unirritating, but nutritious character, in small quantities, but frequently repeated; and where *excessive* irritability of stomach has existed, by the use of nutrient enemata instead of the administration of food by the stomach, counter-irritation, and by the internal use of alkalies with sedatives of hydrocyanic acid, bismuth, conium, creosote, etc. Where less irritability has been observed with loss of power or anæmia, by vegetable tonics, quinine, or steel, in their mildest forms of administration. In that form of ulceration which appears to arise with congestion of the portal system, (the 3d class of cases,) great relief is afforded by freely relieving such congestion by the least irritating means; sometimes, also, by the application of leeches to the scrobiculus cordis, and afterwards by the internal administration of nitro-hydrochloric acid with vegetable tonics.

Treatment of Carbuncle. General Treatment.—Three or four different plans of treatment are in vogue in the Hospitals for the treatment of carbuncle. 1st. By stimulants, full diet, quinine, ammonia, etc. 2d. By opium, freely used, and generally combined with tonics. 3d. A more expectant plan, by salines, low diet, etc., in the first stage, and the moderate use of tonics afterwards. In all these, purgatives, of course, form a part. One of the largest carbuncles which we have ever seen, occurred to a tailor, from Hampton Court, who was treated by Mr. De Morgan, in the Middlesex Hospital, about two years ago. The case was an extremely severe one, the depression of the vital powers being such that, for more than a fortnight the result seemed very doubtful. The very free use of opium, in combination with liquor cinchona, appeared to answer an excellent end, and the man ultimately recovered. We have not, however, seen the opiate plan tried on a sufficiently large scale to justify an opinion as to its general merits, the method by stimulants being by far the most frequently adopted. Mr. Lloyd, at St. Bartholomew's, is the surgeon who is, perhaps, the most sparing of any in the use of stimulating remedies; and we certainly have not observed that his cases do any worse than those of others. In the early stages, Mr. Lloyd generally prescribes salines and fever diet; unless, indeed, the patient be very old or infirm. In one case under his care, after the sloughs were separating, several attempts were made to give stimulants, but on each occasion a fresh accession of inflammation being caused, they were at length desisted from, and the man recovered very satisfactorily without. In carbuncle, as in all other diseases, the surgeon should, doubtless, pay less regard to the name and reputed pathology of the affection than to the symptoms actually present. If the system be much depressed, if the disease appear to have resulted from bad living, and, above all, if the patient's instincts demand them, stimulants should be pushed. If there be extreme restlessness, pain, exhaustion, etc., and if, after a few doses, it appears to agree with the stomach, the sustaining properties of opium may probably be very valuable. Should, however, the patient be of fair strength, the disease in its stage of advance, and attended by sharp inflammatory fever, it may be doubted whether any empirical evidence as to the usefulness of stimuli under such circumstances has yet been obtained sufficiently strong to lead the surgeon to ignore the rational principles of treatment. In such a condition, the arrest of the disease would probably be much sooner effected by alteratives, purgatives, and salines, than by brandy or opium. It is even not improbable that the bleeding caused by incisions is often of great advantage.

Local Treatment. From the time of Wiseman, the practice has been general of making free crucial incisions into all carbuncles. It has not, however, been absolutely universal. A few surgeons, among whom may be mentioned John Pearson in our own country, Von Walther in Germany, and Perrez in France, have been sceptical as to its efficacy. There are also in the present day some surgeons who do not recommend it. Chelius, on the contrary, who appears to have paid some attention to this question, records thus, in strong terms, his conclusion:—"That cutting into the carbuncle is generally neither useful nor necessary, is the most dangerous statement that can be put forth respecting its treatment." Respecting this point, two propositions may, we think, be maintained: 1st. Carbuncles will very frequently get well without having been incised. 2d. The practice of incision, however free, does not by any means universally arrest the carbuncular inflammation. In proof of the former, the fact, that of the cases in our list, eight were not treated by incisions, is conclusive. In these, for the most part, the patients came under care when the disease was evidently arrested, and when free openings had spontaneously formed; so that there was no object for resort to the knife. Many others besides these have been under our observation, and, as a general rule, it may be asserted that the destruction of tissues is far less extensive when the incision has been avoided, than when practiced. The consequent cicatrix is of course much less also. The assertion, that incisions, even of the freest kind, do not always arrest carbuncular inflammation, will scarcely be held to need proof by any one who has seen much of the disease. If the proof be required, however, we may refer to the fact, that in five out of the twenty-seven cases in which incisions were practiced, their repetition was subsequently necessary. Yet, granting the occasional spontaneous curability of carbuncle, and the occasional failure of treatment by incisions, the case still stands very triumphantly in favor of the latter. The only drawbacks to their use are the amount of sloughing and the large scar; but to set against these we have the complete relief of pain in almost every case, and the fact that of twenty-seven cases on our list, in no fewer than seventeen the inflammation never spread after the first incision. This latter fact is one of great importance, for it cannot for a moment be held that in so large a number the cessation of the diseased action was simultaneous with the incision treatment by accident. The relation between the two must, we think, be held proven; and the fact becomes more telling when we add to it, that of the six exceptions in which the disease spread, in none did the spreading continue more than five days, and in none were more than three incisions needed. Now, it happens that a large majority of carbuncles occur in positions in which the avoidance of scar is a matter of no moment; and in those where it is important—the face, for example—the disease is so dangerous to life, that in its treatment considerations of personal beauty cannot be allowed much weight.

Case of Cancer, cured by External Application of Caustic. By J. D. Gillespie, M. D.—A gentleman, aged 79, of a large robust frame, in 1847 received a slight abrasion of the heel, which speedily cicatrized, but the cicatrix soon after gave way and ulcerated. The ulcer dried up and left a hard warty substance in its place, which continued to increase. In 1851, it had assumed the appearance of a hard cancerous growth, fully half an inch in depth. By the advice of Mr. Syme, caustic was applied. Erythema of the leg soon after set in and reached as far as the groin, and the tumor increased in size. A second attack of erythema occurred a few weeks after. The tumor continued to increase in size; the glands in the groin became enlarged; the general health began to be impaired, and the mental faculties were affected. It was in October, 1851, that caustic had been first applied; the tumor was then the size of a walnut, spongy, and occasionally bleeding. Chloride of zinc was had recourse to, and the tumor came away, but after cicatrization had commenced the tumor reappeared. The application was continued for a year with similar results, repeated hæmorrhages took place and the glands in the groin were permanently enlarged. Potassa fusa was applied on three different occasions, but the chloride of zinc was decidedly more efficacious. On September 18th, a year after the first application, chloride of zinc was tried for the twentieth time, and the tumor to the extent of three inches was destroyed; a part of the os calcis exfoliated. Two years have now elapsed, and there had been no tendency to reproduction. Dr. Gillespie considered the case interesting, as it was just such a one which was occasionally vaunted by some quack as a victory gained over modern surgery, and this one certainly explained their so-called cures, and at the same time it was fraught with caution to the surgeon not to lose an opportunity of giving similar cases a trial with the caustic before dooming them irrevocably to the knife.—*Ed. Monthly Jour.*

SURGERY.

The Value of Cough-impulse as a Symptom of Hernia.—Several instances have recently come under our notice illustrating the value of the knowledge of the fact, that *in tightly strangulated hernia no cough-impulse is ever felt.* In all the reducible or merely incarcerated forms, the information derived by making the patient cough is so conclusive, that it is not surprising that attempts should be made to apply the same test to cases in which strangulation exists. Entire forgetfulness of the condition of the bowel could, however, alone induce any expectation that impulses generated within the abdomen would be communicated to it. In all cases in which the constitutional symptoms of strangulation are present, the diagnosis as to whether the tumor be hernial or otherwise must be made without reference to its movements during coughing. Much valuable knowledge on other points may, however, be yet derived from the test. If—in the certainty from other signs that the tumor is really a hernia—there be not the least impulse, a fair inference may be drawn that the stricture is tight. If impulse be felt in the upper part of the neck of the tumor, and not in other parts, the seat of stricture may be accurately determined, being, that is to say, just below the spot where the perception of impulse is lost. On this latter point Mr. Luke has, in his paper "On the Operation for Strangulated Hernia," *Medical Gazette*, 1839–40, insisted strongly; indeed, we believe he was one of the first to direct attention to its value. With regard to the absence of cough-impulse in strangulated hernia generally, our surgical manuals have, for the most part, neglected to make any observation respecting it, while in some, from the terms used, it might be inferred that it was an ordinary symptom. It is still not infrequent to see cases reported in which its absence is noted as having been a source of difficulty and doubt. Most deeply would it be to be deplored should such absence ever lead to delay in performing the operation, since it is, in fact, a conclusive indication of its necessity. We have not made the statement printed in italics above without first instituting much inquiry among those of most experience, and also availing ourselves of every opportunity which has of late occurred for acquiring data in respect to it. The following sentence in its support we quote from a note by Mr. South, in his edition of Chelius:—"I have on more than one occasion heard surgeons of eminence speak of dilatation of a strangulated rupture on coughing, which, I must confess, I think impossible if the rupture be more than incarcerated."—*Med. Times & Gaz.*

Opium in the Treatment of Chronic Ulcers. By Mr. Skey.—Opium produces a certain effect on the chronic and callous ulcer; if it answers here, it will in other diseases, having the special characters of the chronic ulcer. The pharmacologists tell us it is a stimulant and sedative. What do you understand by the stimulating properties of opium? I should be at a loss to call to mind any cases in which it is given as a stimulant, unless in such as these. In nineteen out of twenty instances it is employed as a sedative, as, for example, in relaxed bowels, and to promote sleep. I can show you it possesses other properties quite equal to these; it prevents sleep sometimes; when taken continually it tranquilizes, but it will not always produce sleep. What is the action of opium to which I allude? Whether it acts on the centre or the periphery, whether on the heart or capillaries, I do not know. But this I do know, that it promotes a healthy action on the capillaries of the body, and in cases of chronic ulcer, which I select as an example, you will have a local action set up, which will heal a wound,—will set up a healthy granulating surface, and completely heal it up in a short time, when every other method has failed to do so. What is the condition and character of a chronic ulcer? A chronic ulcer is an excavation, for the most part, affecting the limbs of old people, generally the inner side of the lower limbs; two processes are going on, the formation of the excavation, and the formation of a ring of organized lymph which encircles the excavation, thus hollowing it to a considerable depth, and its surface is covered with unhealthy lymph. This is common to all of them; the elevation of the margins is not a specific manifestation, as it is common to other forms of ulcer. Under the microscope there is not a granulation to be seen, there is an ichorous discharge, with an offensive fœtor arising from it, and yet there is no sensibility, no annoyance nor suffering to the patient, it goes on for year after year without any change; you may strap it, there is no change produced. I give opium, what does it do? It seems to start the capillary system all over the body, particularly in the lower extremities; it produces a genial glow, which may be compared to that of a cold bath, but not from such as is ordinarily taken; go into a warm bath, with a meal in the stomach, with or without perspiration, it makes no difference; well, then, the glow is produced by the opium, and healthy granulations over the whole surface of the ulcer will become apparent in a week. What is the sum of the actions of opium? You will say it is unhealthy. It is not; it promotes warmth, the pouring out of healthy secretions, it produces healthy integument, healthy granulations, it absorbs the unsound around it, and, while the granulations are coming up the elevations are going down. That cannot be considered unhealthy which promotes health.—*Med. Press.*

An Analysis of 3000 *cases of various kinds of Deformities.* By Mr. E. Lonsdale.—The table is arranged in six divisions:—

1. Deformities of the bones and joints of the lower extremities,

arising from weakness either in the bones themselves, in the ligaments, or in the muscles—1663 cases. 2. Club-feet—495 cases. 3. Deformities of the spine—465 cases. 4. Affections of the joints from paralysis—288 cases. 5. Deformities from badly-united fracture—63 cases. 6. Deformities from arrest of development—16 cases.

Simple bow-legs, or outward curvature of the tibia and fibula is the most common, amounting to 533. Simple knock-knees occur the next in frequency, being 481. Knock-knees and bow-legs may co-exist as rickets, and produce a very great amount of deformity. Bow-legs, with outward curvature of the femur, number only 23. Bow-leg of one side and knock-knee of the other, may be remedied in early life, but not after the bones have become firm. Club-feet are divided into—1. Talipes varus. 2. Talipes valgus. 3. Talipes equinus. 4. Talipes calcaneus. To one form of talipes equinus he gives the name of rheumatic, because that disease causes contraction of the muscles of the calf.

All cases of varus require the division of tendons—viz., the tibialis anticus and posticus, the tendo-Achillis and the plantar fascia. In talipes valgus, the extensor communis and the peroneus must be divided. In talipes equinus, the tendo-Achillis offers the obstacle to replacement. In talipes calcaneus, the treatment is effectual only in those cases (congenital) where the deformity arises from spasm of the muscles in front of the leg. When paralysis of the muscles of the calf exist, the relief is partial.

Deformities of the spine are divided into—Lateral curvature, 173; posterior curvature, 70; latero-posterior, 29. Abscesses form when carious disease attacks the lumbar vertebræ, but not in the higher regions of the spine. Lateral curvature may depend upon disease of the thoracic viscera. Joints may be permanently contracted by the action of surrounding muscles; the hip is most frequently affected. Wry-neck often causes alterations in the expression of the features. Deformities may arise from fractures badly united; the number amounted to 31. The author had seen some cases of spina bifida in the Orthopœdic Hospital, also some of curvature of the legs, from excessive development of the adipose tissue in young children.

Mr. Lonsdale observed that mechanical appliances were resorted to only when Nature had failed to effect a cure. The support was applied laterally, and did not interfere with the motions of the chest, nor with the growth of the pelvis, as it was placed around, and not on that region. The careful and proper employment of mechanical support in his practice had been attended with the most beneficial results. —*Lancet.*

On the value of the treatment of Orchitis by Collodion. By M. Ricord.—Thirty-eight patients have been treated, under M. Ricord, by elastic collodion, according to the rules established by M. Bonnafont. The pain produced by the application of this substance lasted from six minutes to a quarter of an hour. The greater number of patients felt easy from that time, but others experienced a recurrence during the course of the day. One of them complained of most acute suffering. The inflammatory pain diminished in some, and ceased in others, without any sensible influence from the collodion: in a certain number of cases the pain was sensibly augmented. In none of the patients treated in this way had M. Ricord to relate the miraculously rapid cure announced by M. Bonnafont. After twenty-four hours the tumor had not sensibly diminished in volume; it presented, in the majority of cases, the diminution of one-third of an inch after forty-eight hours; then the diminution continued to operate gradually and progressively. The mean duration of the malady in the cases treated by collodion, was seventeen to eighteen days. At the same time, eleven patients, also affected by blennorrhagic epididymitis, were treated by repose, strict regimen, and topical cold. The inflammatory pain disappeared promptly, and the diameter of the tumor was sensibly diminished at the end of thirty-two hours. The mean duration of the malady was fifteen to eighteen days. A third series of patients was treated by compression by strapping. Here the symptoms disappeared more rapidly than in the preceding plans. The mean duration of treatment was fifteen days. One patient was discharged cured in six days. M. Ricord believes that elastic collodion does not cause such suffering as the ordinary collodion, but that it is a more painful mode of treatment than others. M. Velpeau believes that collodion does not shorten the duration of orchitis; it sometimes diminishes the pain; on other occasions it increases it; it irritates the skin; often excites suppurations, which are tedious and inconvenient. M. Bonnafont has explained his success upon the fact of his having treated his cases at the very outset, a circumstance quite possible in a military hospital.—*Rev. Med. Chir.*

Lithotomy. By Mr. Hilton.—The patient was a lad brought in with well-marked signs of stone. During the preliminary parts of the operation, nothing unusual occurred till Mr. Hilton passed the forceps to extract the stone. The latter was at once found to be very large; but that which protracted the period of the operation to double the ordinary time of such extractions was stated by Mr. Hilton to be a most unusually sacculated condition of the bladder. Again and again the forceps seemed to catch the stone, but as often slipped off the stone again; the latter to all intents and purposes firmly grasped by the muscular bands of the bladder. The operation for lithotomy, we are quite aware, is not one done every day by each of our readers, yet our younger practitioners will do well to take note of these cases when they do occur. The calculus appeared to Mr. Hilton as if held by strong bands of muscular fibres stretching across the bladder, completely encysted, in fact. Such cases are fortunately not often encountered by the surgeon, and when they are, as in the case so ably managed by Mr. Hilton on the 21st. ult., at Guy's, they give rise to no little apprehension. "Cases of encysted calculi are fortunately very rare (says one of the best lithotomists of the day, Mr. Coulson), but when they do occur they present one of the most embarrassing conditions with which the lithotomist can have to deal, for the stone is more or less concealed in a sac, the entrance into which may be much narrower than the fundus. Could it be ascertained with any certainty, before an operation has been undertaken, that the stone is actually lodged in one of these sacs, I am decidedly of opinion that lithotomy should not be had recourse to, because it is ten to one that the operation will turn out to have been useless." This must be a serious and anxious position for a young surgeon. In the subsequent part of the operation, even when the stone had become detached, it was found very difficult to extract it by the original opening, till Mr. Hilton called for the knife again to enlarge the incision in the soft parts external to the prostate. Considerable hæmorrhage, as might be expected, followed; however, by keeping up pressure on the parts, this was ultimately controlled. As we expected, Mr. Hilton informed us he did not cut so deep as the prostate.—*Med. Cir.*

Upon Wounds of Arteries, and their Treatment. By Mr. BUTCHER.—The direction given in works on surgery to cut down to a wounded artery, and to put a ligature above and below the seat of injury, is good in itself, but not always practicable. When the internal carotid artery is wounded by a piece of tobacco pipe thrust through the mouth, the common carotid must be the vessel tied. A similar necessity may exist even in wounds of the extremities, as has been shown by Mr. Butcher, F. R. C. S. I., Surgeon to Mercer's Hospital. We find, in the *Dublin Quarterly Journal of Medical Science*, an account of a wound of the profunda artery; ligature of the femoral, below the margin of Poupart's ligament, by a transverse incision; arrest of the bleeding; death eleven hours afterwards. It was impossible to tie the artery above and below the wound, owing to its great depth from the surface; the main trunk was, therefore, secured by a ligature, the incision through the skin being made transversely, as previously practiced by Mr. Porter, in consequence of the necessity of putting on the ligature so close to the crural arch. The most interesting part of Mr. Butcher's communication is the narrative of those cases in which he commanded hæmorrhage from a large vessel by means of well-adapted pressure. A policeman was stabbed in the leg: severe arterial hæmorrhage, followed by faintness, ensued. Mr. Butcher concluded, from the nature of the accident, that the posterior tibial artery was wounded. Graduated pressure, by means of a roller and compresses (7 or 8 pledgets over the situation of the wound) was carefully exerted; the foot was raised; a compress and roller were applied over the popliteal artery, and a dose of morphia was administered: the limb was kept steady by a splint. On the following day, the pressure was removed from the popliteal artery and applied to the femoral, by means of an aneurism compress on the groin. The case did well; and Mr. Butcher, in commenting upon it, remarks that, as a rule, the surgeon should not seek for a wounded artery unless it be bleeding. A case of wound of the ulnar artery above the wrist was successfully treated by compression of the wound and pressure over the brachial artery; and profuse hæmorrhage from the hand after excision of the index finger, with removal of the head of the metacarpal bone, was completely controlled by powerful flexure of the injured limb, together with gentle pressure over both the radial and the ulnar arteries.—*Med. Chir. Rev.*

MIDWIFERY.

On the Advantages of Excision of large Uterine Polypi over Deligation.—Prof. Simpson contends (*Monthly Journal*) that excision of large pedunculated uterine polypi is a simpler and safer operation than removal by ligature. To effect the operation of excision he has invented an instrument having the form of a blunt midwifery hook, with a concealed blade in its concavity, which divides the stalk of the tumor when once embraced by the hook. He thus speaks of the relative dangers of the two operations:—

"The principal danger to health and life in this, as after other surgical operations, is the danger of phlebitis and surgical fever. Is such a consequence more liable to follow upon the instantaneous resection of the peduncle of a polypus, and the subsequent immediate removal of the amputated polypus itself,—or is it more likely to supervene upon the slow process of disjunctive ulceration being set up in the stalk of the polypus by the ligature, while the gangrenous and putrifying polypus itself is left decomposing in the cavity of the vagina?

"I believe that no physician or surgeon acquainted with modern pathology will have any difficulty in answering, that the danger of phlebitis is much greater under the latter circumstances than under the former. The recorded experience of some of those who have written in favor of the ligature, shows strongly enough the occasional liability under deligation to the occurrence of irritative fever and internal inflammations, from phlebitis and the absorption of putrid and purulent matter from the vagina. Dr. Hamilton mentions three cases of death which he had seen follow the removal of uterine polypi by ligature. 'On a close inquiry,' observes Mr. Arnott, 'I find that even those who use it (the ligature) acknowledge that occasionally cases have been met with, where the ligature in cutting its way through, has excited irritation and fever, and even death. Two cases have been described to me by the practitioners concerned where this occurred, and in casually referring to the interesting works of Boivin and Duges I find two similar ones." In his lectures on fibrous tumors of the uterus, Dupuytren states, 'I possess eight or ten observations of women who have perished, from veritable poisoning and absorption of pus, after the application of the ligature for uterine polypus.'

"I have myself seen a woman die with a ligature still fixed around the partially divided neck of a uterine polypus; and other cases where severe but not fatal attacks of phlegmasia dolens and phlebitis followed deligation. Twelve or thirteen years ago, on a patient of Dr. Edgar's, of Berwick, I applied a silver wire ligature to the neck of a large polypus, and tightened it from time to time, according to the usual rules. In the course of a few days the polypus was dead and putrifying; there was much heat and irritation in the vagina; and the patient's pulse became rapid under the irritative fever that followed. On strongly tightening the ligature, to expedite as much as possible the total amputation of the polypus, the wire broke; and the canula and wire slipped off. I immediately proceeded to remove the polypus by excision instead of making any renewed attempt at deligation; and the result was to me very striking and satisfactory. Within twenty-four hours the local irritation had greatly subsided, and the constitutional disturbance entirely disappeared. From that time to this I have operated on many uterine polypi, but never again by the process of slow deligation. And the more that I have seen of the practice of removing large pediculated uterine polypi by excision, the more deeply has the conviction grown upon my mind, that this method is very superior to the usual method followed in this country, of the removal of them by the canula and ligature.

Case of Puncture of the Ovaries per Vaginam. By Dr. J. Schnetter, of New York.—The case of Dr. Schnetter is one of double ovarian dropsy, two cysts having been successively punctured per vaginam. The patient was twenty-five years old; she had been delivered by the forceps, after a difficult labour, a year before she came under Dr. Schnetter's care; she had suffered from painful menstruation before pregnancy, and, during pregnancy, from unusual distension of the abdomen and difficult respiration. Fever and marked symptoms of peritonitis followed delivery. Examination revealed a tumor reaching a few inches above the umbilicus, occupying the right hypogastrium. The os uteri was in its normal position. To the right, somewhat behind it, and a little higher, a round and but slightly elastic tumor was felt. The uterus was longer than natural, and bent forwards towards the pubis. The continuity of the tumor in the abdomen with that in the pelvis was ascertained by counter pressure. A curved trocar was pushed into the tumor, when it projected behind the cervix uteri. At first, blood, then a few ounces of discolored pus followed. The trocar was driven further in, and by means of a curved knife passed through the canula, a further opening into the tumor made. A little bloody serum followed. A tube was adapted to the wound. Considerable fever and pain ensued. Some days after the operation, pressure being made on the tumor through the abdomen, about four or five pints of offensive purulent gelatinous matter, mixed with fibrinous shreds, escaped through the tube. The tumor disappeared. Discharge continued for some time. The patient's health did not improve. Four months after the puncture, examined again: another tumor was found projecting into the vagina on the *left* side. This cyst was punctured in like manner. Fever and alarming inflammatory symptoms followed. Six days afterwards an abundant discharge took place, gelatinous and fibrinous in character. The wound healed six months after the puncture. The patient eventually recovered her health; and eighteen months after operation there was no sign of relapse.—*Med. Chir. Rev.* from *Verhandl. der Phys. Med. Gesell.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the treatment of Puerperal Peritonitis by large doses of Opium. By A. Clark, M. D., Prof. of Physiology and Pathology in the Coll. of Phys. and Surg., N. Y. Prof. Clark has communicated to the new American edition of *Ramsbotham's System of Obstetrics*, his experience in the treatment of puerperal fever, by opium, at Bellevue Hospital, N. Y. Following the relation of one case and a reference to several others, he concludes :—

In reviewing the cases, of which an outline is given above, I think the following conclusions are justifiable :—

1st. When a prominent element in "puerperal fever" is peritonitis, the treatment with large doses of opium is more successful than any other that has yet been proposed.

2d. To be successful, this treatment must be commenced early, and the patient must be brought under its influence as rapidly as the susceptibility of the system can be ascertained by trial.

3d. The quantity of opium required to produce a safe but desirable degree of narcotism, varies greatly in different cases; so that it is necessary to begin with doses that cannot do mischief, and increase every two hours till the influence of the opiate is sufficiently decided.

4th. Every dose, during at least the whole tentative period, should be administered by the physician himself, or by some person on whose knowledge of the effects of opium and whose watchfulness and discretion he can rely. Some young physicians are too bold, and endanger the life of the patient; others are too timid, and do not control the disease.

5th. The opium treatment alone will not cure "puerperal fever," when its leading element is purulent metritis, though there is reason to believe that it will control, and even prevent the peritonitis which generally accompanies it. This conclusion has been confirmed by recent observations.

6th. The tolerance of opium in some cases of puerperal peritonitis almost surpasses belief. Yet in private practice I have not found more than half or two-thirds of a grain of sulph. morph., every two hours, necessary, and have generally begun with less, except for the first dose.

7th. The influence of the opium should be kept up till the pain and tenderness subside, the tympanites diminishes in some degree, and the pulse falls below 100—then, with the concurrence of other symptoms, it should be gradually diminished, and at length discontinued.

A few remarks and statements may be needed to make some of these conclusions intelligible.

The usual effects of opium given in efficient doses for the cure of this disease, are, a disposition to sleep, but not profoundly; a contracted pupil; perspiration, often profuse; sometimes a red, blotchy eruption; diminished frequency of the respiration; subsidence of pain and tenderness; slight suffusion of the eyes; and after a variable time, reduced frequency of pulse. Of these effects, three have been chiefly regarded as the criterion by which each particular dose is to be governed. If, when a dose is due, the sleep is profound (the amount of sleep is of little importance, if the patient be easily roused from it), there is reason to hesitate; if the respiration has already been reduced to twelve in the minute, and is *very* irregular and sighing, the dose should be diminished or wholly withheld; yet so long as the tenderness continues, it is desirable to urge the opiate, but, of course, always within the limits of safety.

The respiration appears to be the most certain indication of danger. I have not generally aimed to reduce it below 12 the minute. Yet in almost every case it has fallen, once or twice in the course of the treatment, as low as 7, and sometimes to 5. In no instance, however, has the narcotism, taken as a whole, been so profound as in the case detailed above. No instance of fatal narcotism has yet occurred under my observation, nor among the many cases reported to me by others.

Regarding the tolerance of opiates in some of these cases—at the risk of being charged with rashness and trifling with human life, I will make some extracts from case 7. The treatment was commenced at 10 A. M., on the 26th of December—two grains of opium hourly. At 2 P. M., no change in symptoms, dose increased to gr. iv. At 3, gr. iv. At 4, gr. v. At 5, gr. v. At 6, gr. viij. At 8, gr. x. At 9, gr. xij. At 11, sol. morph. sulph. (sixteen gr. to f ℥i) ʒiss. At 12, ʒj. At 1½ A. M. (respiration 6), 0. At 6 A. M. (respiration 12), opium gr. xij. At 10, sol. ʒj. At 12 M., opium gr. xij. At 1½ P. M., sol. ʒii. At 2½, ʒii. At 3½, opium xxiv. At 5, gr. xij. At 6½, sol. ʒijss. At 7½, ʒij. At 9, opium gr. xiv. At 10, gr. xvj. At 11, gr. xviij. 28th, at 1 A. M., sol. ʒiiss. At 2, ʒiv. At 3¼, opium gr. xx. At 4, sol. ʒiiss. At 5, ʒiij. At 6, ʒiiiss. At 6½, opium, gr. x. At 7, sol. ʒiiiss. At 8, opium gr. xxij. At 9½, sol. ʒiv. At 10, ʒiij. At 11½, ʒiij. At 12, 0. Thus this woman took, in the first 26 hours of her treatment, opium gr. lxviij., and sulph. morph. gr. vij.; or, counting one grain of sulph. morph. as four grains of opium, one hundred and six (106) grains of opium. In the second 24 hours, she took opium gr. cxlviij., and sulph. morph. gr. lxxxj., or opium four hundred and seventy-two (472) grains. On the third day, she took 236 grains. On the fourth, 120 grains. On the fifth, 54 grains. On the sixth, 22 grains. On the seventh day, 8 grains. After which, the treatment was wholly suspended. This woman was not addicted to drinking, and after her recovery, she assured me repeatedly that she did not know opium by sight, and had never taken it, or any of its preparations, unless it had been prescribed by a physician. This is, perhaps, "horrible dosing," and only justifiable as an experiment on a desperate disease. Yet this woman is alive to tell her story, as are several others who took surprising quantities of this drug. But later observations have shown that the tenth to the twentieth part of this maximum is efficient in controlling the disease. So this case is referred to, not for imitation, but because, with similar cases, it is a medical curiosity; and may, perhaps, open some new therapeutical views.

The results of the opium treatment in the hands of my professional friends in this city have not been uniformly successful. This was to have been expected. When the path to success is so narrow, and so little trodden, though beset with dangers on both sides, it is unavoidable that many will lose it. But I believe I am authorised in saying, that those who have seen most of this mode of medication, are most attached to it. It is not to be expected that in a disease so dangerous as the one under consideration, any plan can be uniformly successful, even with advantages of accurate diagnosis and early treatment; but, when it is remembered that the diagnosis between purulent metritis and puerperal peritonitis is not always easy,—and that this medication is successful in proportion to its early adoption,—we may probably find reason for its failure in other hands, as well as in my own.

By way of illustrating the vigilance and discretion which must be exercised in the administration of each successive dose of the opiate in this mode of treatment, I will add, that it could never have been fairly tested by me without the zealous, intelligent, and untiring assistance of the house-physicians of the Hospital. They visited the patients every hour by night as well as by day, and every dose of the medicine, from the first case to the last, was given by them, and proportioned to the hourly exigencies.

Notes on Yellow Fever in Charleston, S. C., in 1854. By Henry R. Frost, M. D.—The general character of the disease was similar to former years. Individual cases were more malignant than any previously witnessed. The type of the fever generally continued, lasting two, three, four, five and six days. As the season advanced, it assumed more of the remittent character.

Perspiration in some instances was profuse, even with a hot skin; in others, deficient throughout the continuance of the disease. Heat of the skin was often intense, leaving an impression of burning on the ends of the fingers.

The paroxysm in some instances was of the most violent character —with intense headache—rendering it wonderful how the brain could support such an impetus of blood to this part. The most violent paroxysm of fever I have witnessed, occurred in a black man, spending his first summer in Charleston, who recovered.

As the season advanced natives were seized with the disease—several instances in adults—but children were more especially affected. The disease among them was of all grades, from simple excitement alone with warmth of skin, to the most violent action. The black vomit appeared among them as a symptom in the early stages of the disease, and passed off without its characteristic fatality. In one case a substance of a black appearance, mixed with blood, appeared in twenty-four hours after the invasion of the fever. This passed off in a few hours and the patient convalesced. The disease was of all grades—hence a variety of fevers were said to exist—but, in my opinion, they were all one and the same.

Many recovered after the black vomit, and in rather a larger ratio than in other years, among children especially. In some instances the most intense yellowness of the skin existed, without the corresponding changes in the stomach, attended with the secretion of black vomit.

The sensation of chilliness existed in some instances with extreme ardor of the skin—and while such a burning heat was evidenced by the skin, the patient would be calling for more bed clothes, and seemed only satisfied with half a dozen blankets. Such cases exhibited no peculiarly fatal tendency, the recovery being as great in such cases as others. (A striking instance of this feature of the disease occurred in a patient at Mr. Kennedy's.)

The disease generally attacked the members of the family who were predisposed one after another. Sometimes two would be taken down at the same time, but generally one followed another. The subsidence of the fever was in many instances followed by profuse perspiration, often attended with an icy coldness of the hands and feet, which by many was considered an evidence of the approach of death. This coldness continued twenty-four or thirty-six hours, unaffected by local applications or frictions, but would wear off with the renewed energies of the system. I was called up at night on one occasion to visit a child under these circumstances, who was supposed to be in a dying condition. Another symptom attendant upon the subsidence of the fever was pain in the abdomen between the umbilicus and pubis. This would continue twenty-four or forty-eight hours, leaving the patient ordinarily well.

The black vomit made its appearance in different stages of the disease. The ordinary period was the fourth or fifth day, but a case was related by Dr. Williman, in which the fever commenced with the vomito; and it occurred in a patient under my care, on the 7th day after convalescence had been established to all appearance, the patient being able to leave his bed, and even spoke of returning to his labors.

With the vomito the fever was often renewed, and in a violent manner. Not only was it attended with the ordinary gastric symptoms, but the brain sympathized strongly, and, in some instances, became the dominant disease. Patients have been relieved of the one, and fallen under the disorder of the other. The most formidable symptoms under these circumstances were convulsions, which continued one, two, or three days; and, finally, only ceased with the expiring gaspings of the patient. Another formidable symptom was hæmorrhage. I need not describe the appalling appearance the occurrence of this symptom produces, and how much it adds to the horrors of this disease. It was my good fortune not to encounter this symptom in a single instance.

Was the disease contagious? I need only refer to the statement of the City Register for some facts upon this subject; with these facts you are familiar, and it is a circumstance much to be regretted that the strict regulations upon the subject of quarantine, recommended by the physicians of the city, and a member of Council, also a physician, had not been enforced. It would be much better to annihilate the West India commerce, than that such a calamity should again befall our community.

To the facts thus elicited on this occasion, let me add the extension of the disease to Blackville, Aiken, Augusta, Beaufort, and other places. But let us return to our own community. It is well known that when the disease appears in a family, the members generally susceptible to the disease are more or less affected. A gentleman of our city, with a family of four children, had the misfortune to have one of them taken down with the fever in a very violent form. Feeling apprehensive of the extension of the disease to others, the sick child was removed into a separate room, and none of the children allowed to see her—the result was that none were affected. It is probable that this domestic quarantine was instrumental in preserving the other members, who were similarly exposed, and in a situation not reputed healthy. Hence it became the practice to separate the sick from the well, and to remove, when it was practicable, the entire family from the diseased abode, and I believe in all instances with advantage.

The attack of the disease in children was at times sudden in the extreme. It has happened that the child had been playing in the yard the afternoon preceding its attack, to all appearance well and in high spirits. In the course of the evening it would be languid, drowsy, become feverish, and these symptoms increase to such a degree that in the night it would become delirious, and often to a fearful extent, with intense excitement. This delirium I have known removed by the affusion of cold water to the head—insomuch that the next morning the child has been relieved of all its symptoms—the fever seemingly extinguished by this operation. In other instances it has continued in a more moderate degree during the febrile stage, or it has been followed by convulsions, with apoplectic stupor and death. In adults the attack was often equally sudden—to the moment of seizure the person has been in possession of his usual health—suddenly he is seized with a violent chill, followed by fever. It would seem incredible that a poison of such virulence should lurk in the system for a period even of the most limited extent, without a preceptible derangement of some of the functions of the body.

The degree of exposure required to originate the disease in the system. The shortest period that can very well be ascertained is two hours. A case occurred in a countryman driving his cart into Mobile, who, after remaining two hours, returned home—the disease, becoming developed in a very malignant form, terminated fatally. In our community it was not uncommon, after a residence of one, three or more days.

The protective influence of a former attack of the disease. In some families it was very decided—in some instances all the young members of the family being attacked, except one or two who had undergone the acclimating process in a former year.

In other instances a severe attack of fever, in 1852, has been followed by a severer, in 1854, with black vomit and death.

Yellow fever is not entirely subdued by a black frost. Several cases occurred after such changes in temperature.

In connection with yellow fever must be mentioned the gale of the 7th and 8th of September, which did more damage to the wharves and the shipping than any which has occurred for many years. The tide rose to a great height, and caused more destruction than the wind. For the particulars of this gale I must refer you to the daily journals of that date.

The event which I feel desirous of recording, is the new animation infused into the vegetable kingdom by this occurrence. By the violence of the wind and the spray of the salt water, the leaves of the trees were whipped about and killed, so that the branches became as bare as in the winter. In a short time a new crop began to make its appearance, and in a few weeks our trees were clothed with entirely new foliage, as fresh and green as in the spring, and growing with a rapidity equal to any thing witnessed at that season. Not only leaves, but a new crop of flowers. The trees most remarkable for this last peculiarity were, the peach, the wild mulberry, the apple, the wild orange, the fig, the Seville orange, and the elms.—*Charleston Med. Jour.*

On the use of Glycerine as an Internal Remedy. By J. L. Crawcour, M. D., of New Orleans.—I wish to draw attention, particularly at present, to the *special* action of glycerine on the economy, and the perfect safety with which it can be used as an internal remedy, For the past twelve months I have used it in every case of disease where formerly I should have used cod liver oil, and with superior benefit; for while it seems to possess all the remedial virtues of this latter agent, it is its superior in taste, in not disordering the digestion, and in its property of combining with any other remedy.

In several cases of phthisis, of scrofulous disease generally, in mesenteric disease in children, I have used it largely and successfully; and in children, its sweet and agreeable taste gives it a great advantage over cod liver oil, the only agent I can compare it with, in its therapeutic action. In addition to its special anti-strumous property, I find that it materially aids in the assimilation of salts of iron, especially of the iodide, and I now rarely order either iodine, or the iodide of iron, without combining them with glycerine. Quinine also, is soluble in it, without the aid of sulphuric acid, and to some slight extent is divested of its bitterness.

The dose in which I usually administer it is from one to three drachms three times daily, in an ounce of water; in from one to two drachms, it, in a short period, relieves the cough, improves the digestive powers, and appears to increase the fat-producing principle in phthisical patients; in larger doses it has in a few instances produced nausea; it is, however, essentially necessary to its successful employment that it be obtained pure, and this is a matter of some difficulty, for it is ordinarily the result of the preparation of the common lead plaster, and consequently contains traces of lead, but by the process of Dr. Morfit, who decomposes lard, or oil, with hydrate of lime, it can be procured chemically pure, and at a very cheap rate. Should my communication induce other physicians to try it, the purpose of my writing to you will be answered, as it will be an equal boon to the physician and patient, if a remedy can be discovered equal in properties to cod liver oil and without its nauseous taste and smell.

I have recently tried it as a solvent for phosphorus, which latter we have hitherto hardly been able to use in medicine, as its solution in oil is so nauseous that we can rarely induce patients to swallow it, and its solution in ether is so dangerous that I question whether any physician of ordinary prudence would prescribe it. But in glycerine, it is not only nearly as soluble as in oil, but is miscible with water in all proportions, and is comparatively tasteless and odorless. About two grains dissolve readily in an ounce of boiling glycerine, and from experiments on myself, I consider it a powerful and a valuable stimulant. Of the above solution, which, after the nomenclature of Messrs. Cap and Garot, I would call the glycerole of phosphorus, I took one drachm in a wine-glassful of water, with which it intimately blended; there was hardly any taste or smell, and it did not produce those garlicky eructations said to be the result of the phosphorus in oil. Its effect on my system was that of a stimulant: in about half an hour the pulse became quickened, both at the wrist and at the temples, the cheeks flushed, the skin became warm and suffused with moisture, there was a certain amount of mental excitement, and after a short time there occurred a feeling of oppression at the præcordia, accompanied by palpitation of the heart, while after a certain time the cerebral excitement was followed by a slight feeling of confusion, accompanied by sleeplessness. Each time that it has been taken in this dose, it has, on myself, produced these same effects. I therefore look upon this quantity as excessive, and would suggest that if this remedy be used, it should be in doses ranging from ten to thirty minims. It may be combined with any other drug, and I look upon it as a valuable addition to our list of therapeutic agents; not that the use of phosphorus is new, but hitherto it has been excluded from us from the difficulty of finding a proper solvent—this now, I believe, has been discovered in glycerine. —*New Orleans Med. News & Hosp. Gaz.*

SURGERY.

Case of Resection of the Elbow-joint. By Henry H. Smith, M. D., Consulting Surgeon to the Philadelphia Hospital.—Terence ———, aged sixteen years, entered the Philadelphia Hospital Feb. 23d, 1854, in consequence of caries of the right elbow and anchylosis of the joint, consequent on a fall. The disorder having existed for 18 months, and the arm been allowed to become anchylosed in the straight position, he was sent as a pauper to the Alms House and thence to the Hospital. After being in the house about eight months, he was presented to me at the commencement of my term of service in October. At this time, he was pale, anæmic and enfeebled by long continued disease and suffering, and exhibited symptoms of hectic fever; the elbow-joint was very much swollen, and the skin inflamed and thickened round the bend of the elbow, several ulcerated spots and fistulous orifices existing both on the front and back of the arm. On introducing a probe into two or three of these orifices, the bones were readily felt in a carious condition; there was also perfect inability to move the hand in pronation or supination, the least attempt at bending the elbow or pronating the hand causing him severe pain. As his right arm was thus rendered useless, and there was every prospect of his either dying of hectic fever or becoming a pauper for life, I decided on attempting to save the limb by resecting the diseased joint. Accordingly, on the 11th of October, 1854, after an appropriate preliminary treatment, I operated as follows:—

Operation.—The boy being fully etherized by a mixture of chloroform one part, ether three parts by weight, was laid on his belly with his face inclined to the side of the table, and a stout, round pillow placed on the front of the elbow as a support to the portion to be operated on, as well as with the view of favoring the flexion of the fore-arm, after the section of the olecranon process.

The arm being thus steadied, an H incision was made over the joint on its posterior face; the flaps turned up, the ulnar nerve dissected out of its trochlea, and held on the front side of the internal condyle, and the artery which accompanied it compressed at a point where it was wounded. Martin's circular saw being then applied to the shaft of the ulna, the olecranon process was soon removed, and the whole joint being thus laid open and found to be diseased, both the condyles of the humerus, as well as the epitrochlea, were sawed off by the same saw. The head of the radius being also diseased, it was excised from the neck of the bone by means of large and strong bone-nippers. So little hæmorrhage ensued on the operation that no ligatures were applied. The flaps were then loosely united by sutures, supported by a light bandage, and the boy placed in bed with the arm supported on a pillow in the semi-flexed position, the whole elbow being covered by cloths, wrung out of tepid water. At eight o'clock, P. M., his pulse was 90, and, as he was suffering, 60 drops of laudanum were given to allay the pain.

Oct. 12.—Slept well, better than for many weeks; suffers but little. Ordered chicken-broth and anodyne pro re nata.

Oct. 18.—Applied an obtuse angular splint to the front of the arm; ordered to sit up. *Oct* 24.—Applied a splint nearly of a right angle.

After this date the wound was dressed daily, the angle of the splint being gradually changed to a right angle, and then to one which semi-flexed the arm.

Jan. 15.—Terence can now move his elbow, so that his hand will traverse an arc of forty degrees, and can pronate and supinate the hand quite well.

Remarks.—The advantages of the operation of resection in this case are so apparent as not to require much argument, the saving of a right arm in one dependent on his daily labor for his support, being sufficient evidence of its value as a means of treatment in similar cases.

As a class, few operations are more strikingly illustrative of the progress of conservative surgery than those of resections, yet the number of instances reported in the United States of its application to the upper extremity are by no means commensurate with the cases which might have thus escaped amputation. After a careful examination of a very considerable number of American medical periodicals I find only the following:—one by Dr. Thomas Harris, of Philadelphia, in 1836; one by Dr. Gurdon Buck, Jr., of New York, in 1841, another in 1843, and a third one in 1846; and one by Dr. J. Pancoast in 1842. These cases, with the present one, making only six instances in which this operation has been published. In every case no serious symptoms supervened on the operation, and the patient was relieved of the exhaustion and suffering attendant on the disease, besides obtaining a comparatively useful limb.

The entire head of the humerus was resected by Dr. Hunt, of Washington city, in 1818, and a large portion of the same bone (its head) was removed by Dr. Pinkney, of the Navy, in 1846. When we compare this limited number of operations with the numerous cases of diseased joints that have required it, we must admit that resections of the bones of the upper extremity have not received the attention that the benefits conferred by the operation might naturally lead us to anticipate, and it is with a view of calling professional notice to this useful class of operations that the present case has now been reported. —*Medical Examiner.*

Intense Cold as a Local Anæsthetic—Removal of Congenital Nævus, etc. By J. Mason Warren, M. D.—The patient was a young man having a congenital nævus, of a black color, and of large size, situated over the inner part of the knee-joint, below the patella. The tumor had remained of about the size of a dollar until within two years; since that time a supplementary tumor had appeared beneath the original, quite hard, extending into the adjacent cellular membrane, and apparently attaching itself to the synovial capsule. The whole tumor was sensitive in the highest degree, and at times so painful as to disable the patient from attending to business; even the contact of his clothes producing suffering. It was difficult to make a satisfactory examination, in consequence of his dread of the necessary manipulations. He was kept in a horizontal posture for a few days, dieted, and an evaporating lotion applied, to prepare him for the operation, which was done in the following manner. Excision being objectionable on account of the relations of the tumor to the surrounding organs, equal parts of pounded ice and salt were enclosed in a small gauze bag, and applied to the tumor for four minutes, when the whole of it became congealed and of a white color, crackling under the touch. A narrow-bladed knife was then introduced beneath the skin, and the tumor freely cut up in every direction. The operation was entirely painless; the patient sitting up, and watching its progress with much interest, although previously shrinking on the mere approach of the fingers to the part. The above subcutaneous operation was repeated once or twice, and resulted in the absorption of a large part of the tumor, and entire relief from the morbid sensibility.

In a case of fascial paronychia, in which Dr. W. had recently employed the same method of anæsthesia, the painful incisions necessary to give exit to deep-seated pus were borne without shrinking, and he thought the cure more speedy than under the ordinary treatment. The same fact was remarked by the patient, who was a medical man, and an acute observer.

In one or two cases of operation involving vascular tumors, Dr. W. had found it of much service, during the progress of the dissection, to apply the freezing mixture, and thus temporarily arrest the hemorrhage, so as to allow of a more satisfactory prosecution of the subsequent steps of the operation.

In making the incisions in the congealed part, Dr. W. had observed it necessary to be rather more careful to maintain a firm hold of the knife, and to employ more force than in cutting the integument in its natural condition; otherwise the knife would slip off, and make an incision at some point not intended: this is, however, avoided by a little practice.

There are many cases to which the freezing mixture may be applied, but for more elaborate details reference must be made to the publications of Dr. Arnott, and other gentlemen abroad. In Europe this subject is at present attracting great attention, on account of the continued increase of deaths from chloroform.—*Boston Med. & Surg. Jour.*

EDITORIAL AND MISCELLANEA.

Advantages of Wilde's Instruments.—Communicated by J. Henry Clark, M. D., Newark, New Jersey.—I have found operations upon the ear, in my private infirmary, so greatly facilitated by a new ear-case, that I am induced to recommend it to the profession. It is made by carefully copying the instruments represented in the new work of William R. Wilde, of Dublin, republished in this country during the last year, which has done more for aural surgery and rational practice—indeed, *all* that has been made accessible to the American physician, since the publication of the work of Mr. Pilcher, which grew out of an essay written for the Fothergillian Medal in 1838. This work is more than a new book on the subject, it furnishes *advance*—it exhibits and proves, by tabular statements, that diseases of this organ are subject to the laws and are relieved by the same treatment as diseases occurring in some tissues in other parts of the body. This work divests some diseases of the ear of their obscurity, and explodes some obsolete views of pathology and practice. It is understood, however, that this book is but the harbinger of better days, and that one or more will follow directly, furnishing the results of a still larger experience and improved practice.

But my object was, mainly to speak of a case of instruments, which, in my office, I now regard as indispensable. The tubular speculum is very much better than any thing before devised to examine the drum. This case contains two of different sizes, also a gorget-like instrument, for a speculum, to facilitate operations; an ingenious caustic holder, an instrument for examination and another for cutting operations, with a long, bent forceps complete the case, except what I have found of more practical advantage than all others, a most ingenious instrument for the purpose of moving and removing polypi of the meatus edimas. I have used this instrument three times within a few weeks, and have been greatly gratified with its exact adaptedness to the purpose for which it is devised. Until something better is invented, this ear-case supplies a place never before filled, and furnishes an important desideratum to all who treat diseases of the ear.

Letter from Prof. Brainard.

CHICAGO, *Feb.* 10*th*, 1855.

TO THE EDITORS OF THE NEW YORK JOURNAL OF MEDICINE.

GENTLEMEN:—In a review of the late volume of *Transactions of the American Medical Association*, which appeared in the number of your journal for January, I observe two statements which deserve a notice from me, lest by silence I might be considered as acquiescing in the erroneous impression which they are calculated to produce.

The first is, that the prize essay of the volume is a translation from the French, of a pamphlet, by David Brainard. Independently of the error in the name, this assertion is entirely destitute of foundation.

The second is, that it was originally presented to the Society of Surgery, at Paris, and was the paper on the "strength of which" I was elected a corresponding member of that Society. This statement is equally untrue.

The paper which I read before the Society of Surgery, and on the "strength of which" I was elected a corresponding member, was "On the injections of Iodine into the cavities and tissues of the body for the cure of spina bifida, hydrocephalus, œdema, erysipelas, etc." The Memoir on Ununited Fractures, etc., was barely alluded to in the report of M. Monod on the subject

This Memoir was printed and distributed for the purpose only of securing my claim to priority in certain points. It differs in many important particulars from the prize essay; it was never read before any society, nor presented for a prize, or examination, or report of a committee. Even if it had been, I am well aware that such a circumstance would in nowise affect its claim to be considered original, and that it is now, according to the usages of the highest scientific bodies, entitled to compete for a prize before any society which offers one for an original essay. In proof of this I beg to submit, among many instances which might be cited, the following:—

Dr. Leroy d'Etiolles, Jr., received, in the year 1853, a prize from the Academy of Medicine, for a paper on the question of the existence of paraplegia, not produced by myelitis. Three years before he had published a paper on this subject, and in his prize essay he merely added some new facts to prove the truth of this original view on the matter.

In 1852, Dr. Parola received a reward from the same Academy, for researches on the action of ergot, the results of which had been published many years before.

Dr. Gray published, in 1852 [*Proceedings of the Royal Society*, Jan. 15th], a paper on the Structure of the Spleen, which paper was presented two years afterwards to the Committee for awarding the Astley Cooper medal. Mr. Gray received the medal. It is worthy of notice that the regulations respecting the essays submitted to that Committee were exactly the same as those published by the American Association. It is evident, therefore, that unless the American Medical Association enforces rules altogether unusual and peculiar to itself, and that without publishing them beforehand, my Essay on Ununited Fractures, etc., was justly entitled to compete for the prize which it received.

I hope, gentlemen, you will think it a matter of justice to give this communication a place in your Journal; by so doing you will oblige

Your obedient servant,

DANIEL BRAINARD.

Remarks.—We cheerfully give insertion to the foregoing communication from PROF. BRAINARD. If we rightly understand his language, our errors consist,—*First:* In having mistaken his name. This error is due to the *Transactions*, and for the credit of this volume for accuracy we regret the mistake. *Second:* In considering the Prize Essay a translation from the French of a pamphlet by David (*alias* Daniel) Brainard. Our statement may have been *literally* incorrect, but it matters nothing to our purpose whether the former was actually a translation from the latter, or *vice versa*, provided they are essentially the same articles. That they are in every *material* particular the same, a careful comparison justifies us in asserting, notwithstanding the above statement, that they differ in many important particulars. There are, it is true, several slight omissions in the Essay, of sentences occurring in the Memoir, and *vice versa.* The most important of these is an opinion in regard to the action of the chips made by the perforater, which occupies two-thirds of a page in the Essay, and is contained in a single sentence in the Memoir, and the addition to the former of three new cases, (two of them too meagrely reported to be of any value,) and the omission of one from the Memoir. These differences, however, are entirely unimportant, and do not render the Essay one whit more complete than the Memoir. *Thirdly:* In stating that the French Memoir was presented to the Society of Surgery, Paris, and on the strength of which the author was elected a corresponding member of that Society. We are willing to receive Prof. Brainard's denial as a sufficient conviction of our error. It would have been more satisfactory, however, if, instead of particularizing for what purpose this memoir was *not* presented to any society, he had stated explicitly whether as a whole, or *resumé*, it was ever brought formally before *any* society.

But the principal fact, and that which formed the basis of our former remarks, stands confessed by the author himself, that this Essay was published and circulated abroad before being submitted to the American Medical Association for its prize. This course Prof. Brainard justifies by referring to several examples, none of which, however, we can consider pertinent to his own case. In regard to the first two instances, it appears from Prof. Brainard's own statement, that some of the results merely of the authors' investigations were previously published, and not the complete essays which they subsequently laid before the prize committee. And so far from the paper, which Mr. Gray read before the Royal Philosophical Society, being, as asserted by Prof. Brainard, the same paper which was presented to the Astley Cooper prize committee, it contained, in fact, but a portion of the results of the investigations which form the basis of the elaborate work that has recently received a distinguished and merited honor. Quite different is the case of our National Association, which has bestowed its highest award of merit upon, and published in its annual transactions, an essay which is almost a literal transcript of a memoir recently published in France. We do not charge Prof. Brainard with duplicity or intentional wrong, for he evidently acted conscientiously and within what he deemed the legitimate purposes of the prize committee; but we believe the precedent thus established is dangerous and destructive to the objects contemplated in the establishment of an annual prize. The competition under the injunction of secrecy becomes a farce,—the encouragement and stimulus to original investigation and inquiry fails of its influence,—and the transactions of the Association take the subordinate and humiliating position of a medium for the republication of memoirs or papers already in circulation.—Eds.

American Medical Association.—The eighth annual meeting of the American Medical Association will be held in the city of *Philadelphia* on Tuesday, May 1, 1855.

The secretaries of all societies, and other bodies entitled to representation in the Association, are requested to forward to the undersigned correct lists of their respective delegations *as soon as they may be appointed;* and it is *earnestly* desired by the Committee of Arrangements that the appointments be made at as early a period as possible.

The following are extracts from Article Second of the Constitution:—

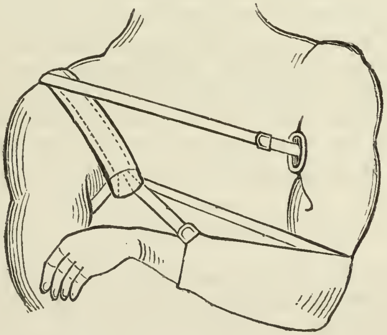
"Each local society shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The Faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital, containing a hundred patients or more, shall have the privilege of sending two delegates, and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

"Delegates representing the medical staffs of the United States Army and Navy shall be appointed by the chiefs of Army and Navy medical bureaux. The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers."

The latter clause, in relation to delegates from the army and navy, was adopted as an amendment to the Constitution at the meeting of the Association held in New York, in May, 1853.

Francis West, M. D., 352 *Chestnut St.*, *Philadelphia.*
One of the Secretaries.

Bartlett's Modification of Fox's Apparatus for fractured Clavicle.—We desire to call the attention of our readers to this very simple and effective instrument. The accompanying engraving will facilitate a conception of its application.



For an axilla pad, roll a strip of woolen flannel, 4 or 5 inches wide, around the axilla strap, to the size required. Put on the collar. Apply the pad, and pass the strap under the collar, thus securing each in its place. The sling, being first attached to the collar by the forward strap, is made to receive the arm of the side affected, when the straps at the back of the sling should be buckled, one behind, the other forward, to the ends of the collar, with the requisite tightness to reduce the fracture and maintain the ends in apposition.

The apparatus may be used for either side, by changing the attachment of the sling, as will be readily perceive. It may also be used for dislocation of the clavicle, fracture of the acromion process, and neck of the scapula.

American Medical Association. Prize Essays.—At the meeting of the American Medical Association held in St. Louis, (Mo.) in May last, the undersigned were appointed a committee to receive and examine such voluntary communications on subjects connected with medical science as individuals might see fit to make, and to award two prizes of one hundred dollars each to the authors of the two best essays. Notice is hereby given, that all such communications must be sent, post-paid, on or before the first day of April, 1855, to R. La Roche, M. D., Philadelphia. Each communication must be accompanied by a sealed packet, containing the name of the author, which will not be opened unless the accompanying communication be deemed worthy of a prize. Unsuccessful papers will be returned, on application to the Committee at any time after the first day of June, 1855; and the successful ones, it is understood, will be published in the *Transactions* of the Association.

R. LA ROCHE, Phila., *Chairman.* ISAAC HAYS, ALFRED STILLE, J. B. BIDDLE, G W. NORRIS, JOSEPH CARSON, JOSEPH LEIDY.

PHILADELPHIA, Jan., 1855.

State Medical Society.—The annual meeting of the Medical Society of the State of New York was held on the 6th of February last, at Albany. There was an unusually large attendance, and a very marked degree of interest in the proceedings was manifested among the members. The session was continued three days and was principally occupied with the reading and discussion of papers. Prof. Frank H. Hamilton, of Buffalo, was elected president for the ensuing year. This is the first time that the western section of our State has been honored with an incumbent of this office, and a more worthy representative of its rising greatness could not have been selected.

OBITUARY.

DEATH OF JOHN W. FRANCIS, JR.—The subject of this notice was the son of the venerable Dr. John W. Francis, of this city. At the time of his death he was actively engaged in the study of medicine, and was a student of great promise. He was attacked with typhus fever while in attendance upon the lectures of the *University Medical College*, of which disease he died, after a short but severe illness, at the age of 22 years. His funeral was largely attended by the Students of the Class and profession generally.

DEATH OF WILLIAM HYSLOP, M. D.—Died in this city, on the 26th of February, Dr. Wm. Hyslop, in the 26th year of his age, of typhus fever. Dr. Hyslop was a graduate of the *College of Physicians and Surgeons* of New York, and subsequently House Physician in Bellevue Hospital. He was a man of strong and generous impulses, warmly attached to his friends, and ardent in the pursuit of his profession.

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THE NEW-YORK

JOURNAL OF MEDICINE

FOR MAY, 1855.

PART FIRST.

ORIGINAL COMMUNICATIONS.

Art I.—*Remarks on the Military Hospitals of Vera Cruz, and the Diseases admitted in* 1853–4, *especially Yellow Fever and Vomito.*

By Dr. Gabor Naphegyi, Prof. of Medicine and Surgery, and Director of one of the Medical Departments of the Military Hospital, Vera Cruz.

From the different reports which have come to my knowledge through the newspapers of the United States, I notice that the yellow fever has, during the year, made its appearance in some parts of that country with far more virulence than ever; and that the number of victims was greater than in many previous years. From private letters received here, I have also learned that medical men, of various sanitary societies, have united in contributing each his individual observations made in his own practice, in order to discover, if possible, the means by which the progress of the yellow fever—that fearful destroyer of human life—may be stayed.

My situation as Professor of Medicine and Surgery, and Director of one of the Medical Departments in the Military Hospital of this place—my own observations in practice, and those of some of my able colleagues—have excited in me the desire to prepare a paper, containing all the different observations worthy of notice; and I shall feel most agreeably repaid for my trouble if they become in any manner serviceable, or if they only, in the furthest degree, contribute to throw light upon the obscure and still doubtful cause of the yellow fever.

But before entering into any scientific and particular description of the disease itself, I will introduce to the reader's notice, the establishment in which these observations were made.

During the period of one year, I had to visit the hospital regularly twice daily—sometimes also three times—and administer medical aid to never less than one hundred patients, while the hospital itself never contained less than four hundred sick persons.

Our establishment is divided into four departments, viz.: Sala de San Pedro, which contains all the surgical cases; Sala de San Martin, and Sala de San Jose—two medical departments; and Sala de San Lazaro, containing all the State and military prisoners. These apartments, or saloons, are each about one hundred and eighty feet long, sixty feet high, and twenty-one feet wide, and are clean, airy, and spacious.

At the head of each department is a physician, in the grade of a commander of battalion; another, not graduated, is his adjutant, in the military grade of captain, who never leaves the hospital, and whose duty it is to make observations during the day, and report them, at the visiting hour, to the head physician. Besides those already mentioned, there are a first and second practitioner, (a topikero,) and first and second apprentice, who have to dispense the medicines, and a chief of the saloon, who has the charge of distributing the provisions, and giving clean bed-clothing as often as it is needed. Besides these eight persons, there are in every saloon eight nurses, who have constantly to walk from bed to bed, and render all possible assistance to the sick and suffering.

The hospital has its own apothecary establishment, attended by a regularly graduated druggist, a man who for many years was owner of a drug store in one of the largest cities in Europe, and is, in all probability, the first chemist in the country. Two other *practicants* are given to his assistance, so that every possible chemical preparation required may there be produced.

At the head of this establishment, as well as of all the others belonging to the department of Vera Cruz, stands one of the most able and talented physicians and practitioners, Inspector General, Doctor in Medicine and Surgery, Don Adolfo Hegewish, a German by birth, but more than twenty-six years a citizen of this country.

To his comprehensive mind, his long experience in practice—to his talents, energy and constant activity, and the merited appreciation in which he is held by His S. H. the President; and to the liberal and benevolent mind of the present head of the Republic—who exerts all means to diminish the sufferings of the poor and sick soldiers—to them both, I say, must be ascribed the present favorable condition of this military hospital. I doubt if there exists in the whole Republic, or even on the Continent of America, a similar institution which is kept more cleanly, and better supplied with all necessaries for the comfort of the sick—medical assistance, medicines, nourishment, clothing, bedding, etc., etc.—than the military hospital of Vera Cruz. The same remark I have often heard made by visitors from foreign parts. The able Inspector, Don Adolfo Hegewish has, through his practical knowledge, proven how many of those diseases which generally become naturalized in hospitals can, by proper and right management, be up-rooted and totally banished; and how even the most fearful of epidemic diseases, when once raging in those establishments, can be combated, and forced to lose in a considerable degree its frightful appearance.

The objects of the present Medical Director, in his wise management, are two-fold: 1st. To supply the suffering human being with all possible medical assistance, and to render his practical knowledge useful in assisting the young practitioner, who has to combat the different diseases of those patients under his charge. 2d. To have the young practitioner profit by experience, and gather knowledge and information by daily observations; and to this end, every one of the physicians in whose charge one of the departments is placed, is obliged to keep a medical diary, in which he has to enter the observations made on every patient, from the hour that he enters to the hour that he leaves the establishment, either restored to health, or borne to the eternal resting place—the grave. When the case terminates fatally, the cadaver, in the presence of all the physicians of the hospital, and under the immediate inspection of the Director himself, has to be dissected; and the physician, who had the deceased in charge, has to relate the whole history of the case, from the hour that he took the patient in his charge until the hour that he expired—the symptoms, changes which occurred during the period of the disease, treatment, etc.

The autopsy, in connection with the verbal report of the physician, is the immediate proof in how far the diagnosis was right or wrong, where the mistake occurred, if there was any other disease than that assigned, or what caused death, etc.

These kinds of dissections naturally afford sufficient matter for the observant and attentive student, and the hospital thus becomes a practical school, in which the young military physician makes daily progress, and gathers hourly more information than many a physician in several months' private practice. These remarks lead me to assert, that during an engagement of one year, I witnessed, myself, over three hundred dissections, of which, at least, sixty were made by myself.

But among all the different diseases to which the human system is subject, and which in the course of one year have been treated in this establishment, to none have I more particularly and exclusively directed my attention and study, than to that of the yellow fever and vomito. From the first day of the month of July, 1853, to the last day of the month of September, 1854, there have been under medical treatment in the military hospital of this place, nine thousand five hundred and eighty-seven sick, of which number eight hundred and thirty died.

The mortality this year has been far less than that of the previous one, for the following reasons. The establishment, under the presidentship of Arista, was neglected; the poor and helpless soldier, when he became sick, and entered the hospital, was not laid in a bed, but on the naked, cold and damp ground. There were no bed and bed-clothes, and the sick, in consequence, were exposed naked on the floor. That this circumstance contributed materially to advance the progress of the disease, it is natural to conclude. The former physician in charge of the hospital neglected his duty, or regarded it only as an office which contributed to his pecuniary interest. Neglect and abandonment were visible on all sides. The government of Arista paid little attention to the condition of the soldier, when once sick and helpless. The selection of good physicians for military hospitals, and a careful inquiry into the manner in which they discharge their duties and obligations, were matters of no importance; and thus the establishment called a hospital, where the sick sought for help, was nothing else than a den where pestilence guarded its entrance, and vermin covered the reeking walls—where human beings were placed only to become the more sure victims of death, from the respiration of a foul air, capable of corrupting and poisoning the most healthy constitution.

The present Administration, immediately after taking the reins of government in its hands, directed its attention to providing a home for the suffering soldier. This duty was given in charge of the above-named gentleman; and, from the moment that he entered upon his task, his efforts have been unremitting to eradicate those diseases which generally, when no attention is paid to the condition of public charities, colonize themselves in public infirmaries and hospitals, and, once rooted, produce the most fearful epidemics.

The mortality in the military hospital of this place diminished not only gradually but most remarkably, and the more the improvement advanced, and the more attention was paid to the condition of the hospital and the care of the sick, the less frequent did deaths occur. The extracts which I here annex will prove the truth and force of the above remarks.

In the month of July, 1853, there were under treatment 518 patients, among whom were only 18 cases of vomito, and 87 deaths; while in the same month of this year, there there were 805 sick, 165 cases of vomito, and only 23 deaths. The total entry and deaths from the month of June, 1853, to the end of September, 1854, were as follows:

Month.	Entry.	Exit.	Death.	Month.	Entry.	Exit.	Death.
1853.				1854.			
June,	319	107	76	January,	583	241	25
July,	344	164	87	February,	587	263	21
August,	675	250	72	March,	769	304	34
September,	741	233	101	April,	768	296	48
October,	640	160	96	May,	925	376	69
November,	524	196	37	June,	872	263	75
December,	508	189	14	July,	590	215	23
				August,	653	260	29
				September,	833	250	26

The different diseases which were treated, and which are more or less frequently admitted, are as follows: the black vomit, yellow fever, (I make a difference between the former and the latter,) typhus and typhoid fever, pernicious, intermittent and bilious fever, scarlatina and small-pox, inflammation of the lungs, bronchitis, virulent diarrhœa, and dysentery, occasional cases of congestion of the brain, syphilis, etc.

From the month of March to the first of October, I had under my treatment 1202 patients. Among them were of—

Vomito, . . .	132—80 in the month of May only.
Dysentery, . . .	85.
Intermittent fever, .	206—59 in the month of September.

Pneumonia, . . .	68—18 in the month of March.
Diarrhœa, . .	59.
Pernicious fever, . .	13.
Typhus fever, . .	75.
Bilious fever . . .	33.
Syphilis, . . .	54.
Consumption, . . .	32

These different diseases have certain periods in which they have appeared like an epidemic, and many of them, especially those which are ranged in the class of fevers, under a peculiar and different character. In the month of February, pulmonic diseases are so frequent, that it can be asserted with certainty that they amounted to at least twenty or more per cent. of those who were treated in the hospital. The months of April and May are the months of the vomito, while in the months of August and September intermittent fevers have their period; and it is frequently the case that those who have had the vomito in the month of May or June, have generally an attack of the intermittent fever in the above-named months. Dysentery has no fixed period, and is interesting only in the difference in its character, at different periods.*

---

*I may here remark, that dysentery in a climate like that of Vera Cruz is a most dangerous disease, and the attending physician often finds dysentery a more difficult disease to manage than vomito. My usual treatment in the year 1853 was the following:—

℞.

Sub. Nitrat. Bismuth,	ʒii.
Opii. puri	gran. ii.
Bicarb. Sod.	ʒii.

M. divid. in four parts.

or ℞.

Ipecacuanhæ	gran. vi.
Opii Crudi.	gran. ii.
Pulv. Rad. Althea,	ʒi.
Cinam.	℥ii.

M. divid. in twenty parts.

With this foregoing powder I administered the following injections.

℞.

Amylum,	℥ij,
Argent. Nitrit.	gran. vi.
Laud. ex Sydenh.	ʒi.
Mucilag. Gum Arab.	℥v.

M. Sig. for one injection.

From observations made in the department of which I have charge, all the above-named diseases may be quite certainly arranged in the following classification, viz.:

Vomito in the summer months, . .	20	per cent.
Yellow fever, ...	5	" "
Inflammation of the lungs, ...	6	" "
Dysentery, ...	15	" "
Intermittent fever, ...	30	" "
Pernicious, "	5	" "
Brain (Fievre typhoidea), . . .	3	" "
Typhoid,.	6	" "
Typhus, ...	5	" "

Observation leads me to believe, that the atmosphere is the great influential cause of the "black vomit." The part of the animal body to which I would assign the seat of this disease is the blood, and its great supporter is the atmosphere. The human being belongs to that class of animals called warm-blooded. Every forcible loss of blood weakens the production of heat in the body, and every part in which the circulation is interrupted becomes cold.

The animal heat has a great influence upon those epidemic

In more difficult cases, I gave the following:

℞.

Creosot		℥.
Sulph. Morph.	gran.	ii.
Pulv. Rad. Althea.		℈iss.

M. Sig. in six parts.

But the best result obtained was the following:

℞.

Acidum Sulph. medicinal,		ʒii.
Tinct. Opii.	gut.	xl.
Syrup simpl.		ʒiss.
Aqua simpl.		℥vi.

M. Sig. to take in six parts after every operation, with the following injections:

℞.

Mucilag. Gum Arab.	℥v.
Acid Tanini,	℈iss.
Tinct. Opii.	ʒi.
Pulv. Carbon vegetal.	ʒi.

diseases which rage only in the southern climates. Animal heat is a result of the combination of those two constantly acting elements of our bodies, carbon and oxygen. The first is derived by the process of digestion from the food received into the body; the latter by inhaling the oxygen which is contained in the atmospheric air. These two gases, by uniting in certain proportions, produce a constant combustion, and are the sole causes of animal heat.

Animal heat is then exclusively the great supporter of animal life, and, as before mentioned, the great motive-power of the blood. In its production, only a certain quantity of food which yields the carbon, and only a certain quantity of oxygen, are required to support the circulation and maintain the animal heat in its proper state and limits ; but when more oxygen is received than is necessary for the combustion of the carbon, instantly the regular course is interrupted, and an immediate change in the body is produced.

Nor at all times does the animal body receive the required and necessary quantity of oxygen; for as this gas is only taken out of the atmosphere, it is readily perceived why the different and sudden changes of the atmosphere and climate produce so many alterations and diseases.

The atmospheric air is one of the most powerful agents. Through its elasticity, it acts like a tonic bath to the surface of the body; it absorbs all the bodily evaporations which without its assistance would suffocate us, and is the most proper conductor by which the superabundance of animal heat is removed. In the atmospheric air the electric phenomena are exhibited—that mighty influence upon the animal system which is a still undiscovered and unknown power. Without this powerful agent, one of the principal functions of our economy, the perspiration, would not be possible.

And in this function it acts, not in the mechanical way, but receives and gives to the blood that mixture, through which only the animal and chemical process can be supported, and the action of the *vis vitæ* maintained in all organs. Through this latter mighty and powerful agent, the atmosphere maintains the existence of animal life. It produces health and disease, and, in proportion to its change, force, etc., is the class of diseases changed. A humid air weakens the tone of the harder tissues, and increases the activity of the vital power. For instance: owing to a humid and cold air, in moist autumns, in winters without frost, diseases of a different kind prevail. This condition of the atmosphere produces generally catarrhal diseases, local inflammations, gout, etc.

Heat, on the contrary, increases the activity and irritability of the capillary system, and tends powerfully to promote in the different organs the chemical and vital changes. Therefore, in hot climates, we find those diseases which are influenced by the cause just mentioned prevailing with more virulence, running a more rapid course, and of a more dangerous character, than in the temperate latitudes. May not experiments, based upon these facts, demonstrate in how far the atmosphere is a great, if not the first destructive agent of the healthy constitution, and gives rise to a disease like the vomito?

In Vera Cruz the vomito generally commences with the beginning of the summer months; and this is another evidence that the atmosphere acts as a principal agent in its production. This is explained by the fact, that in these months we have generally the winds from the south and west, prevailing during this entire period; while in the autumn and winter months we have the north wind. The former are therefore the unhealthy, and the latter the healthy winds. And this is not only the case here, but it seems to be a law prevailing over the whole globe. The Harmattan in the interior of Africa have a healthy influence; and when these winds begin to prevail, all the existing epidemic diseases cease, and the sick are again restored to health. Opposed to this wind is the Sirocco of the Italians, or the Samum in the desert between Bassra and Bagdad, which is very dangerous to the Arabians.

Our north winds produce generally inflammation of the lungs, intermittent fevers, rheumatism, etc., while the warm and moist south winds produce generally typhoid fever, and, in the fatal summer months, the vomito. The sudden change to a cold north wind, as it frequently occurs following a south wind, fills often in a single day our establishment with patients complaining mostly of catarrhal diseases. So far in regard to my observations upon the atmosphere, and its influence upon the health, and more particularly upon the appearance of the vomito.

But in concluding this remark on the influence of the atmosphere, I will illustrate it with an example. All foreigners, as well as natives of the interior of the country, in coming to this place in one of the summer months, are almost without exception attacked by the vomito. The reason of this may be easily understood. Vera Cruz is situated on the level of the sea, in the degree 19 of latitude, and 98 longitude; it belongs naturally to the hot climate of the tropical zones. Jalapa, situated at only a distance of twenty-five leagues, is four thousand three hundred and thirty-five feet above the level of the sea, and is one of the most healthy localities in the republic.

Supposing now a resident of Jalapa comes to Vera Cruz. Let us examine what effect the change of climate will have upon him.

The change of temperature is so great that it must have an immediate effect upon his system. The heat is oppressive, he perspires in abundance, experiences a sense of languor in all his muscular exertions, his nights are sleepless, and the body deprived of its natural repose. Though no disease has yet attacked him, he is an altered man. Without making any change in his diet, he takes the same food as the natives —food too strong, too nutritive for the climate. He is deprived of his free and refreshing mountain air, and is on the contrary exposed to the hot and unhealthy southern winds. How can it therefore be expected that such an individual will remain healthy, with all these physical changes in his system?

The blood then, and the capillary and vascular system are the first to suffer on the appearance of the vomito. I must not omit to remark, also, that on the different constitutions of different individuals depends, in a great measure, the progress of the case, and even the attack, for different constitutions are unequally affected by irritation. In some cases I was led to believe that the first feverish irritation commences in the skin, and through the capillary system is conducted by the vascular system to the whole body.

The foregoing remarks and observations make it unnecessary to explain that, as I assign change of climate, the influence of the atmosphere, and the change of the quantity and quality of the blood, as the primary causes of the vomito, this disease is not, like some other epidemic or endemic disease, a local, but on the contrary a general disease of the system.

Symptoms of Vomito.—The first symptoms which accompany the vomito are principally and first of all, *the activity and vivacity of the pulse.* The cause of the feverish pulse is the high state of irritability of the arteries and of the heart.

To enter more particularly into the examination of the feverish pulse in the vomito, I made my observation according to the standard of Falconer.

The normal state of the pulse between the thirtieth and fortieth years of life, in the female, is generally eighty-four, but in the male seventy-five only in a minute, although the mode of life, temperature, activity of the body and of the mind, and the time of day, etc., produce a great change in different individuals. With this standard I compared the state of the patient in vomito. The pulse at first rises gradually. If in its natural state it is seventy-five, in the first six hours of the attack it beats from eighty-five to ninety in a minute. In the next six hours it reaches one hundred to one hundred and ten. In the first twenty-four hours, I have observed patients with a pulse ranging from one hundred and thirty to one hundred and forty-five; and cases are not unfrequently met with where there are one hundred and sixty pulsations per minute.

To these symptoms of the vomito belong also others which take their origin in the nerves, and which generally appear in all fevers. To this source must be attributed frequent yawning, pain in the extremities, foamication, an unpleasant painful sensation in the spine and vertebral column, headache, dullness, etc.

In the vomito, the blood drawn from a vein is often deprived of its coagulability and remains liquid, and the blood-water, or serum, takes a reddish appearance. Often the extracted blood has an uncommonly obscure, and sometimes again a light reddish color. Especially remarkable is the surface of the extracted blood in the vomito, its appearance being similar to that of fevers with the character of the synocha, or inflammation.

To the changes under which all the liquids of the human body, in the disease of which I treat, suffer, belongs also the urine. With the commencement of the vomito the urine is pale and without a sediment; but as the disease advances, the color of the urine becomes more obscure, and the sediment forms only a considerable time after it is separated from the body.

But sooner or later, the urine undergoes a change; it loses its reddish color, and assumes by degrees a pale appearance. The urine, however, which was passed in the highest stage of the disease, has a red sediment, and retains its former color without change.

The more the disease becomes complicated, the more abundant is the sediment; but toward its termination the sediment diminishes, and disappears altogether.

The quantity of the salts of the urine in the vomito depends on the high, irritated, or low state of the fever. In the beginning of the disease, that is to say, in its first stage, the phosphates are in small quantity, or altogether absent, while the urates are never present until the fever has advanced.

I have observed, also, that both the phosphates and urates were present in the urine when the vomito, as is often the case in the months of September and October, takes the character of the intermittent or remittent types.

After the crisis, which is generally the fifth or the seventh day, both the phosphates and urates diminish gradually in their proportions, and exist then as in the normal state of health.

Treatment.—In regard to the treatment of vomito, it is merely necessary to indicate the general method by which it was successfully treated in our hospital. It is as follows: First, Extraction of the blood; second, Purgatives; third, Artificial perspiration; and lastly, Artificial irritation of the skin.

Art. II.—*Ulcers over the Patella causing Necrosis, and followed by Suppurative Inflammation of the Knee-Joint.* By John O. Stone, M. D., late Surgeon to Bellevue Hospital, N. Y.

Messrs. Editors.—In the September number of your Journal for 1854, among the "Amputations of the Lower Extremities at Bellevue Hospital," I mentioned two cases, in which ulceration over the patella led to necrosis of the patella, to inflammation and suppuration of the joint, and finally to amputation of the thigh, for the purpose of saving life. From the experience then acquired, I stated that we were authorized to look with suspicion in cases of ulcers so situated, and consequently to be guarded in our prognosis.

Below I have recorded a new case, the *third* one in which ulceration over the patella was followed by necrosis of this bone. In this case, a slight accident subsequently caused a compound fracture of the patella, freely laying open the whole joint, but which fortunately terminated in recovery without a resort to amputation.

These three cases of an ulcer thus situated, and leading to such grave consequences, must, as it seems to me, be rare in any single person's experience. They are novel and extremely valuable, for they teach a lesson which cannot be learned from any work on Surgery. For these reasons I am anxious to call attention to them, and shall feel obliged if you can find room in your Journal for this publication.

The case reported below, beside being valuable for the points already alluded to, is remarkable for showing that extreme laceration of the knee-joint does not necessarily require amputation. No constitutional symptoms, not even an acceleration of the pulse, followed the accident. This absence of bad symptoms is to be attributed to the size of the wound, which allowed the pus to escape readily as soon as formed. If the wound had been a narrow one, we should undoubtedly have had excessive pain and fever, which would probably, in the end, have destroyed life or required amputation.

Since the question of freely opening suppurating joints is now attracting much attention, any case which confirms or contradicts the practice is deserving of record. I need not add that my opinion is in favor of the new mode of treatment. Truly yours,

JOHN O. STONE, M.D.

30 WAVERLEY PLACE.

Case—Ulcer over Patella—Necrosis and Fracture of the Patella—Extensive Laceration of the Knee-Joint—Recovery.

OCT. 11th, 1854. Mrs. R., aged 30 years, was, about six months ago, a patient at Bellevue Hospital, for an ulcer over the patella. This ulcer did not heal, but extended to the patella, and exposed it to the air. The limb was kept extended upon a straight splint, and she was not allowed to leave her bed. She was pregnant, and on this account decided to leave the hospital in order to be confined at home. She was warned of the dangers that might arise to the joint from neglect or carelessness, and was informed, that if the knee-joint should become inflamed, that her life would be endangered, and that she might be obliged to have the limb amputated. She left the hospital with the injunction to send for me in case the knee should become affected.

In the latter part of August she sent for me to come and see her at her residence. The patella was found broken, and the integuments lacerated transversely from one side of the joint to the other, and the joint laid freely open, so that I could introduce my finger, and feel the heads of the femur and tibia.

Her history since she had left the hospital was as follows: She had continued to attend to her household affairs until the 12th of August, although a piece of bone of the size of the tip of the finger had separated and come away from the patella. At the above date, on leaning out of the window to shut the blinds, her foot slipped, the leg flew backward, and she fell to the floor; the knee was torn and the patella broken, and she could not stand upon the limb; on the following night, i. e., on the 13th of August, she was taken in labor, and delivered prematurely. She had never suffered much pain, and now the edges of the wound are covered with luxurious granulations. She has not, and never has had any constitutional fever.

I put her upon quinine and porter, with nourishing diet, and enveloped the knee in a gutta-percha splint, and she continued to nurse her child. Early in September, finding that she was destitute of all comforts, from the neglect and desertion of her husband, I persuaded her to enter Bellevue Hospital again. She entered the hospital, and the whole wound healed without a bad symptom, with the exception of a small portion of the integuments, when she again returned to her home, and walked thence to my office, fully the distance of half a mile, using a cane only.

Jan. 25th, 1855.—She sent for me to visit her. She was attending to her domestic affairs, and depending for her support upon the charity of her neighbors. The neglect and ill treatment of her husband had rendered her careless and desperate, and she had acquired the habit of intoxication. She had gained flesh and strength, and walked without a cane. In one of her fits of intoxication she had knocked her knee, and had caused a new ulceration of the integuments. The gutta-percha splint was still worn. The wound into the joint was perfectly healed. She was destitute, and I sent her to the hospital again.

March 10*th.*—The patient has, I am informed, now left the hospital perfectly recovered, and, what is remarkable, the joint was not anchylased.

ART. III.—*An Inquiry into the Nature of the Anomalous Affection known in the United States by the appellation of* "*The Nursing Sore Mouth,*" *or* "*Puerperal Anœmia.*"* By M. L. KNAPP, M. D., late Professor of Materia Medica, etc., etc.

I. Present State of Medical Knowledge.—Views of Correspondents.—Abstract of Literature.—The Writer's Views of the Nature of the Affection.

THE term Nursing Sore Mouth is so well understood to mean a peculiar form of disease to which suckling women are subject, that its adoption, though it be popular rather than professional, cannot lead to any mistake. There may be some practitioners who have never encountered this disease at the bed-side, and possibly those who have never heard of it; yet there are numerous physicians who have met with it and found it a very serious and obstinate affection. The silence in the main of standard or systematic authors on the subject; the omission in the arrangements of the best nosologists of any affection of the mouth peculiar to lying-in women characterized by the phenomena that are manifested in this complaint; and the testimony of the Journals, nevertheless, that such an affection does exist, is often met with, and is greatly on the increase in some localities; render it, most decidedly, a proper subject of inquiry, particularly in the absence of any clear or satisfactory views from those under whose observation it has more frequently fallen, as to its nature, pathology, and rational method of cure. To deny that a peculiar, lingering form of disease, often of very grave severity, characterized by anæmia, debility, and other phenomena of which soreness of the mouth constitutes a prominent local symptom, now and then attacks women in the state of lactation, and persists, sometimes, in spite of all the remedial measures brought to bear upon the case, finally either proving fatal or terminating in a slow and gradual recovery incident to circumstances, as the removal of the infant from the breast, change of season, etc., rather than the administration of medicines, would be to shut our eyes to facts and experience. The history of hundreds of such cases is annually unwritten, willingly oblivionized among the unrecorded transactions of groping practice: and yet these cases are not wholly lost, for they reach us from the nursery as the reminiscences of many a delicate mother's past sufferings, and forebodings of their re-occurrence, constituting some of the oral literature of this dreaded affection. There are few practitioners, we opine, who have altogether escaped these popular traditions of the Nursing Sore Mouth affection.

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* The researches made by the writer in preparing this Essay during the winter of 1853—4, led to the investigations into the Cause of Cholera which were published in the January number of this Journal.

The recorded literature of this disease is made up of the brief articles on this subject that have from time to time appeared in the medical Journals. Some of these are mere notices that such an affection has been met with, accompanied with the recommendation of a favorite remedy, perhaps, while others contain well-marked and well-drawn-up cases of the disease. We propose as a starting point in our inquiry to canvass what is known and what has been published on the subject, so far as we may be able to reach the files of the Journals. It is probable an article may here and there be overlooked, but sufficient testimony will appear to establish very clearly the grave character of the malady; that it is nowhere understood, every where treated empirically; and that it has hitherto failed to receive such careful investigation at the hands of any member of the profession as to settle the question of its pathology and treatment. Prior to glancing into the Journals, however, we will offer the original views of our correspondents, elicited by the following circular, two hundred and fifty copies of which were distributed to leading practitioners of the United States. We will not marvel that only three medical gentlemen have responded. These three contributions on the subject, however, are valuable. They establish the grave character of the malady, the want of any exact knowledge of its true character, and the further interesting facts that it has puzzled, perplexed and engaged the attention of the profession in sundry parts, and that it is looked upon as a subject of sufficient general interest to demand a searching inquiry. Our acknowledgments are hereby tendered to the courteous gentlemen who kindly responded to the call.

Circular.—Cincinnati, Dec. 22, 1853.—DEAR SIR: My apology for trespassing on your time and attention is the following, to wit: I am instituting some inquiries into the nature and history of that anomalous affection known in the United States by the popular designation of "*Nursing Sore Mouth.*" Attention has been briefly called to this disease through some of the Journals as a form of "*puerperal anœmia.*"

Having encountered the disease in localities widely apart, and having conversed with physicians in different States who had met with it frequently; I am led to think that it occurs more or less in all the States and British Provinces, but more frequently by far in some localities than others. Although it is believed to occur thus extensively, and so frequently during some years that it may be said to be a not uncommon form of disease, still little is understood of it except empirically, and it is consequently treated with very variable results, the majority of well-marked cases proving obstinate, running a course of some months, and in many instances yielding only with a snail's pace, after the removal of the puny infant from the breast, which dernier resort seems to be a *sine qua non* in the recovery of inveterate cases.

Its literature, I think, is limited to a few fragmentary notices, that have appeared in the Journals within the last few years: nothing is said of this obstinate and sometimes fatal form of disease in our elaborate treatises on Practice and Diseases of Women.

Presuming that this anomalous and nondescript form of disease has come under your notice, and that you will feel an interest in contributing to its elucidation, I respectfully request you to call to mind your cases of "nursing sore mouth," and the impressions they have left on your mind, and, at your earliest convenience, to draw up and forward to me by mail your observations and experience on the subject. My object is to arrive at just conclusions by means of more extended data than my own observations afford. This appears to me to be a legitimate mode of investigating the subject, and the only practicable method perhaps, for the disease seems to shun the lying-in wards of hospitals (or we should have heard something of it), and to occur wholly in private practice.

Should I be so fortunate as to arrive at any practical deductions deemed of general interest to the profession, and worthy of publication, the condensed views or points of practical importance (and, if not too copious, the views in full) of my correspondents will also appear, that each may receive the award of merit due to his own observations. Allow me to add in this connection that it will give me pleasure to reciprocate the favor at any time you may call on me for a like civility.

Having made known my object and wishes in a general way, I now take leave to call your attention to a few points in detail I wish your answer to cover, which, for your more convenient reference, I have numbered.

1. Topography of your region of country, and how long settled; agriculture and products; state of horticulture and orcharding; general character of disease?

2. Number of years in practice; number of cases of nursing sore mouth met with; history, symptoms, treatment, duration, result, of one or two cases as types?

3. If death has resulted in any case, the mode or manner in which it took place?

4. The effect of the disease in the mother on the child; if the infant died, or was removed from the breast, the effect of a suppression of lactation on the progress of the case?

5. Whether cases have occurred more frequently in some years than others; if so, the character or constitution of those years as to temperature, snow, rains, frosts; whether the crops and fruits were blighted or short; season of its development?

6. Whether attacks have occurred oftener after first confinement than in subsequent ones?

7. Whether attacks have occurred oftener after very severe labors, flooding, or other prostrating accidents of delivery?

8. Whether you have known an attack follow abortion, or parturition where the infant was still-born, or was removed from the breast and lactation suppressed?

9. Whether the disease has ever to your knowledge made its incursion before delivery; and if so, the effect of parturition on the case?

10. Whether, within the range of your observation, other females than those in a pregnant, puerperal, or suckling state, have suffered an attack of this form of anæmia; and if so, whether concurrently in the same family where a nursing female was laboring under it?

11. Whether, according to your observation, it be a disease peculiar to women; or have you met with the same morbid diathesis and assemblage of symptoms in males, during years of the greater prevalence of this disease?

12. Whether you have noticed in seasons of the more frequent occurrence of this affection, a prevalent, morbid diathesis that seemed to aggravate and render more intractable the common forms of disease?

This covers all the points I wish to have categorically responded to; but any views of your own—any facts or deductions from your practical experience and observation, throwing light on the etiology, pathology, or treatment of this affection, will be thankfully received.

Dr. Ellsworth's Reply.—Hartford, Jan. 21, 1854.—DEAR SIR: Many duties have hitherto prevented an answer to your favor of the 22d December. Your letter was handed to a physician having more extensive practice than myself in the department of midwifery, but as he insisted on my writing, you shall have all the information I possess: the questions shall be answered briefly, at least as many of them as it is in my power to answer

1. Hartford is partly built on the alluvial of the Connecticut River valley, but the county is mainly primitive. The farms are rich, highly cultivated, and possess good depth of soil. Diseases in our valley generally assume a typhoid type, and do not bear the lancet as well as in higher portions of the State, and my impression is that V. S. is not as well borne as some years since.

2. My present experience extends back only fifteen years. The disease under consideration is not of very frequent occurrence, though common enough to excite earnest desire for its amelioration. The treatment, symptoms, etc., have been discussed by our City Medical Society.

3. As a general thing patients have recovered, though weaning has occasionally been necessary to effect this. I have known no case of death from the disease alone.

9. I had a very severe case commencing nine weeks prior to labor; the patient had nearly died from the disease with a previous child, in which case also the complaint made its appearance prior to delivery. She recovered, and I think without removing the child.

The treatment is simple, consisting of good support by way of food, bark with lime-water, carb. ferri, carb. sodæ, and particularly porter. Almost every thing tonic is useful, but especially the articles mentioned.

The minutes of our Society present but little worth mentioning in addition, except a statement made by Dr. Miner that he knew a severe epidemic of it in Berkshire Co., a mountainous region in Massachusetts, in 1832, and another at Middletown, in Connecticut, in 1836. Dr. Sumner also stated that he found persons subject to this complaint more disposed to phthisis. He had known the disease occur as early as the fifth month of pregnancy. Local treatment does not appear to be particularly serviceable. Some of the questions remain unanswered, because I must either give a negative answer or one of no particular service to you. Hoping what is recorded may be useful to you, I remain, yours, truly, P. W. Ellsworth.

Remarks.—Dr. Ellsworth's contribution establishes the fact very clearly that the disease in question is not confined to the period of lactation, for he observed its occurrence twice in the same female, and on both occasions it made its incursion before delivery. Dr. Sumner also had observed it as early as the fifth month of pregnancy. It is not, therefore, *caused* by the drain of lactation, as has been supposed. Dr. Ashwell, in considering the complaints developed by undue lactation, makes no mention of any malady similar to the nursing sore mouth affection. We thus establish one point in our investigation, viz.: that the disease is not an affection peculiar to *nursing* women.

Again: another fact of much importance is derived from Dr. Miner's statement in the discussion of the subject before the Hartford Medical Society, viz.: "that he knew a severe epidemic of it in Berkshire Co., Mass., in 1832, (the year of the cholera,) and another at Middletown, Ct., in 1836." The fact established is, the greater frequency of the disease in certain years, amounting to an epidemic in some localities. This accords precisely with our own observations; and if the constitution of those years, as to temperature, snow, rains, frosts, state of the crops and fruits had been given, as called for by our circular, very important deductions, we opine, might be drawn from the premises. In the absence of said particulars we must depend on our own knowledge in the matter.

The winter of 1831–32, was the coldest winter, according to our recollection, we have ever experienced. The harbor of Baltimore, where we then resided, was closed by ice about four months—the Chesapeake Bay was almost frozen across at Annapolis, a circumstance which was then stated in the public prints to have occurred but *once* since the settlement of Lord Baltimore's colony—the harbor of New York it was conjectured might be closed by the ice that winter—we participated in a sleigh-ride, the thermometer at zero, in the month of April, 1832, and the snow well-nigh a foot deep. The Asiatic cholera swept over the United States in the summer of 1832, and what influence the very rigorous winter and retarded spring exerted upon the human constitution in the United States toward rendering it liable to attack, has never been inquired into. That the constitution of the seasons and state of the crops and fruits have very great influence over epidemics there can be no manner of doubt; and while our observations tally with those of Dr. Miner as to the occasional epidemic prevalence of nursing sore mouth, we can as emphatically declare that its epidemic manifestations occur *invariably* after cold winters and retarded springs, accompanied with a scarcity of vegetable supplies. The coinciding fact, therefore, of nursing sore mouth occurring in epidemic form, in Berkshire Co., Mass., a cold mountainous region, in 1832, after an uncommonly rigorous winter and a cold retarded spring, is another point made in our inquiry.

As to the epidemic of 1836 at Middletown, Ct., this is not quite so clear. We incline to the opinion that Dr. Miner is mistaken in the date, and that it occurred in 1835, the year of its epidemic occurrence in the West, complicated with other epidemics, as will more fully appear in our chapter on the topography of Illinois, where we discuss the metoric phenomena and constitution of these epidemic years.

In regard to the treatment given by Dr. Ellsworth, we wish particular note to be taken of the good support by way of food, porter as a drink, (full of carbonic acid,) and the preparations of *soda*, *lime*, *iron*, etc., recommended. There is application yet to be made of the principle before we have done, illustrative of the why and wherefore of the efficacy of these acids, salts, alkalies and tonics, combined with wholesome nutrition.

Dr. Hall's Reply.—Glasgow, Jan. 26, 1854.—DEAR SIR: Your circular letter bearing date Dec. 22, has been in my possession several weeks, and would have received an earlier response but for the presence of other engagements. Upon its reception I bestowed upon it a careful perusal, and cannot refrain from expressing a hearty commendation of the enterprise you have embarked in, and, so far as any cöoperation upon my part may conduce to the results to which your investigations are directed, it is most cheerfully granted. In responding to your inquiries, I have to mention two circumstances which I very much regret should exist—in the first place, the instances of this anomalous affection have been limited; but more especially do I regret that my observations in reference to these cases have been without that systematic accuracy, in the absence of which, facts in a great degree become valueless as materials for etiological, pathological, or therapeutical generalization.

During the last three years, which embraces the period of my acquaintance with this, as a distinctive type of disease, I have, in some manner, been connected with the treatment of five or six well-marked instances of "puerperal anæmia," besides several cases of minor importance, in reference to which I have been casually consulted. The gravest case which has presented itself to my observation, occurred in the person of a lady who was a resident of Logan Co., in the southern part of this state, and who was at the time I saw her (Aug., 1853,) on a visit to her friends in this neighborhood. This was a very characteristic case. The subject, æt. about thirty-eight years, is habitually anæmic, strikingly deficient in the nutritive function, so much so as to present a very pallid, exhausted appearance, and the buccal affection has regularly recurred, in the early period of lactation, since the birth of her second child—having had six, I believe. The infant then at the breast was about four months old, and from the history of the case elicited from the attending physician and her friends, her general debility increased, and her health continuously declined to this period, when the symptoms had become extremely aggravated. She had been confined to her bed and utterly helpless for fourteen or fifteen days when I first saw her—entire buccal membrane covered with aphthous inflammation, with numerous patches of small ulcers, several large ulcers occupying the edges and inferior surface of the tongue, and some isolated spots of ulceration on the inner surface of the lips, profuse salivation, (not mercurial,) much complaint of vitiated taste with anorexia, pulse 125, and very feeble, with a very low grade of febrile reaction of a regularly remitting type, muscular and nervous exhaustion complete, with extreme feebleness of circulation. So distinctly remitting was the accompanying fever, in this case, that it seemed so urgently to demand an anti-periodic, that such a measure was resorted to and met the indication very happily.

This imperfectly-descriptive history is equally applicable to two others, the most malignant cases of the disease, with the one described, of which I have any knowledge; and in both these instances the subjects were likewise non-residents of this (Barren) county. One, a young married lady of Gallatin, in Tennessee, came near sinking under a protracted attack, the onset of which dated with the establishment of lactation after the birth of her second child. The other subject of this vitiating infirmity is a resident of Louisville, and, as I have been informed by her sister, who resides in this place, like the first-named case, it has become so much a constitutional vice as to be habitual with each returning period of lactation. The two females last adverted to seem in a good degree to regain and retain their health and vigor throughout the menstrual cycle, but the health of the first is hopelessly dilapidated, though she is measurably free from the essential symptoms of "nursing sore mouth."

The remaining several instances of the affection, which have been presented to my notice, put on a milder form, yet sufficiently serious to become objects of regular medical attention; presenting in a marked manner the conditions of an impoverished circulation, a depraved state of the nutritive and assimilative functions, with the more specific local lesions stamped with a less or greater degree of distinctness, in accordance with the mildness or intensity of the attack.

As to therapeutical relations, I conceive that these are, to some extent at least, deducible from the manifest pathological features of the disease. I can but regard the diseased condition as constitutional, consisting mainly in a lesion of nutrition. It may become a question as to where the first link in the chain of morbid actions is to be riveted; but as for my own part, I have learned to regard a vitiated action of the organs of primary digestion as a primitive feature in this pathological state, and other symptoms and conditions as more secondary. The circulating medium certainly becomes greatly depreciated in normal elements, and to replace these constitutes a leading indication of treatment. How to accomplish this, or the principles upon which it is to be done, involves details and considerations not consistent with my present purpose to discuss. So far as concerns the lesion of the mucous lining of the mouth, I can regard this only or mainly as a local manifestation of a more general diseased disposition, and this consideration would lead us to attach but a secondary value to topical measures of treatment; this my experience fully verifies. I have derived manifest advantage from astringent washes, and even caustic solutions applied to the diseased membrane; but they are to be relied on as less important auxiliaries of a judiciously devised constitutional plan. One drachm of sulphite of soda to the ounce of water forms a valuable wash. The blood dyscrasia, which constitutes the peculiar diathesis of this affection, must be corrected by a set of measures addressed to the nutritive and assimilative functions,—a properly regulated but nutritious diet, exercise adapted to the strength of the patient, and attention to every means of promoting and maintaining the healthful functions of the skin. I have found the most satisfactory results to attend the persevering administration of quinine, chalybeates, the mineral acids, and cod-liver oil, with attention to the state of the secretions.

To speak with more especial reference as to the etiology of puerperal anæmia, I am inclined to discard the influence of climate and locality in the causation of the disease, further than the agency they may exercise in lowering the tone of nutritive life. Thus they may become predisponent agencies; but unless there be an inherent defect of constitution, I should be disinclined to attach much consideration to their influence alone. One of the strongest predisposing causes is, a naturally delicate and enfeebled constitution, and whatever depressing influences may operate to foster and still further deprave this natural disposition to the establishment of the anæmic diathesis; nothing further is wanting to give to the disease its distinctive and characteristic development, but the withdrawal, from the already scanty maternal supplies, of such nutritive elements as answer the demands of gestation and lactation. I will suggest a circumstance in this connection: I have observed in a majority of cases falling under my notice, that the child is very prone to muguet during the existence of the other disease in the mother. How far may the vitiated materials of nutrition derived from the mother contribute to the development of muguet in the child?

I will now bring to a close this communication, already extended greatly beyond the contemplated limits when I sat down to write. It will afford me decided satisfaction, at all times, to reciprocate favors of this character, and as a beginning I would gladly have pointed out to me a more successful plan of treating malignant epidemic scarlatina, than experience and reading have, as yet, enabled me to arrive at. I am, most respectfully, yours, etc., J. P. HALL.

Remarks.—The points of particular interest in Dr. Hall's paper are, the kind of constitution most liable to this affection, viz.: feeble, delicate, breeding, and suckling women--its constitutional rather than local seat—its pathology in his judgment being a lesion of nutrition—its sporadic appearance in Kentucky and Tennessee—its very marked, grave, and chronic character—its low grade of remittent febrile exacerbations—the ulcerated condition of the mouth and tongue, attended with profuse salivation not mercurial—the impoverished state of the blood the cause of the disease, and to supply the circulation with normal elements the chief indication in the treatment—and the observed fact that the infants at the breast, in the majority of cases, are also affected with sore mouth. In fine, this contribution comes to us with a freshness from the bed-side of observation in this disease that is exceedingly forcible and instructive, and much to our aid and assistance in these researches. When we come to sum up and offer our views of the nature of this affection, having first set forth all the testimony we can find on the subject, the attention of the careful reader will revert to these practical views of Dr. Hall.

Dr. Judkins' Reply.—Cincinnati, 4th Mo., 1854.—Dear Doctor: Thy circular of inquiry relative to "nursing sore mouth," which thou wert so kind as to send me some weeks ago, I have taken the first favorable opportunity to answer.

In the early part of my practice, I do not now remember to have met with this affection. I often met with diseases, over forty years ago, affecting the mucous tissue resembling stomatitis; also an apthous condition in children in the same membrane.

Within the last twenty years, but more especially within the last ten years, my attention has been more particularly drawn to notice this adult female disease, for I do not remember ever seeing the disease in any other persons than adult women, and in these only while in the state of lactation.

Females of a lax fiber, thin in flesh, rather of anæmic appearance, are those generally whom I have been called upon to treat for nursing sore mouth. I have known some ladies so predisposed to the affection as never to go through a lactation without it, and others, with slight hygienic directions, to escape during the second and third lactations, and perhaps to the end of child-bearing; showing that a strong tendency or predisposition exists in some females to morbid derangements and ulcerations of the mucous linings of the primæ viæ. I say hygienic directions, by which I wish to be understood well-aired rooms for lying-in women; pretty good diet after lactation is established; bathing the skin often over the region of the uterus, both anteriorly and posteriorly, with tepid water, and after which staying the muscles of the abdomen with a bandage; patients to be taken out after their infants are three weeks old, to ride in the fresh air when the weather is suitable; and to be allowed to receive the visits of affectionate friends at suitable times, etc.

In tracing the symptoms as they are developed in this disease, it has manifested itself as *sui generis*, and is confined in its locality, incipiently, to the mucous membrane of the primæ viæ. I am led to this conclusion from the symptoms only in the living subject, having never yet made a post-mortem examination to prove this position. There appear to be three stages in the regular phenomena of nursing sore mouth, viz.: irritation, inflammation, and ulceration. In addition to these there is (as in most idiopathic diseases) a forming or fixing condition in order to bring about the disease itself, and this is indicated by lassitude, debility, and coolness over the body. Shortly after the lady complains of heat and irritation in the mouth, with a preternatural secretion of saliva; then follow red spots on the sides of the tongue and mouth, which, in a few hours, sometimes terminate in ulcers; ragged ulcers of from half the size of a three-cent piece to that of a fifty-cent piece. Soon after things have developed themselves thus far, the lady complains of pain and tormina all through the bowels, indicating the same altered structure and ulceration in the primæ viæ throughout.

In the second stage fever is observable, and the irritation occasioned by the ulcerations through the track of the first passages keeps it up for some days, say two or three, unless mitigated by some remedy, yet in common incipient cases lactation is but little retarded; but if the disease is permitted to continue for a few weeks, general debility and loss of flesh follow, and the secretions become morbid and the milk fails. Generally speaking, from the time that the first irritation is observable below the pylorus, the bowels begin to act preternaturally, and the dejections are commonly of a thin, watery consistence, inclined to light color. I say generally, but there are some exceptions. I have seen cases where the bowels have been confined during the progress of treatment, except when moved by the administration of laxative medicines, but never without pain.

After the disease has been of two or three weeks' standing, by examining a recent alvine evacuation, we discover *floating floculi* in the chamber-vessel of a mucous appearance; this, taken in connection with some of the other symptoms, viz.: ulceration, heat, burning pain, etc., in such portions of the mucous tissue as can be seen, lead to the belief that there are ulcerations in the mucous linings of the bowels, nearly, if not entirely throughout the whole track, from which the mucous secretions became separated and found their way to sight.

If this state of morbid derangement continues for two or three months, the body becomes emaciated, hectic fever ensues, and, where there is a strumous diathesis existing, we will have tuberculosis developed, with cough, hemoptysis perhaps, and other fatal symptoms to close the scene.

I will now touch upon the important point in the treatment. Every intelligent physician, with whom I am acquainted, has his favorite prescriptions in this female affection; and as I have been called to prescribe for quite a number of patients, I will only notice what course I have adopted, hoping, that when my experience is added to that of others, something may be sifted out that will be of service. There are two prominent indications to be fulfilled in the treatment: in the first place, we must endeavor to correct the ulcerative process or heal the mucous tissues, and in the second, to restore the morbid secretions and disordered functions to a normal standard.

Unfortunately, the cases that have come under my care have mostly been chronic, and hectic symptoms more or less existed, with diarrhœa, tormina, general emaciation, restless nights, suppressed lactation, etc., etc. I begin the treatment by giving bicarbonate of soda, in fifteen-grain doses, dissolved in a tumbler of water, three times a day, which soon corrects the *acid* and *acrid* secretions in the first passages; and, in order to avert diarrhœa, I combine about five drops of the tincture of opium with each dose; order the patient to be well bathed in tepid water, once in the twenty-four hours, when the exacerbations of febrile action are at the highest point; regulate the diet, and avoid such articles of fruits and vegetables as have a tendency to irritate the tender granulations with which they may come in contact, or may exert an unhealthy influence over assimilation, but at the same time enjoin a generous, or *good rich diet.* After a few days thus treated, I give the patient one of the following pills three times a day.

℞

Nitrate of silver, . .	gr. x.
Denarcotized opium, . .	gr. iv.
Gum camphor, . . .	gr. v.
Disulphate of quinine, .	ʒj.

M. f. pil. No. xxv.

As the symptoms vary and improve, I suspend in part or altogether the medicinal treatment, as would occur to any physician, watching the effect of remedies, and the turn and change of symptoms of the patient. Under this plan of treatment I have, but in one case for several years, been under the necessity of taking the child from the breast of its mother, though I am aware of the great assistance afforded thereby in the cure. Very respectfully, thy friend,

WILLIAM JUDKINS.

Remarks.—Our circular was sent to Dr. Judkins, understanding through some of his patients, whom he had treated for this affection, that he possessed skill in its treatment, and enjoyed some reputation for its successful management, beyond that of the generality of physicians. His success, it now appears, depends on the liberal use of *a salt of soda, tonics and astringents, with good food, and tepid ablutions daily;*

a course well calculated to promote, coax, urge, even *force*, the nutritive process. This practice appears very rational, certainly, and in the absence of a true pathology, and the real cause of the affection not known, must be regarded as happy. When we shall have unfolded the *essential nature* of this anomalous affection, the why and wherefore of the success of Dr. Judkins' practice will be clear.

The points of particular interest, then, in Dr. Judkins' paper are, the apparent increase of this affection of late years—delicate ladies its subjects—its liability to recur—good, rich diet a preventive—pain and tormina of the bowels always present in marked cases, together with a watery diarrhœa, and *white floculi floating in the dejections, as in cholera.* No other contributor to the literature of this affection, we believe, has taken notice of this last circumstance—a very important fact. Doubtless these floating floculi are cast-off patches or sloughs of the epithilium, the same as in cholera, and not mucous secretions, as Dr. Judkins supposes. The tendency to grave local lesions, and the development of tuberculosis, hemoptysis, etc., is another point of importance to be borne in mind in this very practical contribution.

Let us now consider the literature of this disease.

LITERATURE OF NURSING SORE MOUTH.

The main contributions upon this supposed new form of disease, are from Drs. Hale, Backus, Channing, Bell, Wood, Shanks, Taylor, Holt, Ware, McGugin and King, in the United States, who have described it as it appeared in the extreme eastern, western, northern and southern States. These contributors have described the affection from personal observation, with the exception of Drs. Wood and Bell of Philadelphia, who have given it place in their standard systems of practice as a new form of disease on the testimony of others, and chiefly Drs. Hale and Backus, who were the first to call attention to this anomalous affection through the Medical Journals—Dr. Hale's article having appeared in 1830, and that of Dr. Backus in 1841.

Beside the above-named American contributors to the literature of this anomalous affection, we find that Dr. Marshall Hall, of London, wrote a treatise on a similar anomalous disease, in 1820, designated by the very indefinite appellation of "*a serious affection*," which, appearing to us the same as the nursing sore mouth of this country, we shall begin our synopsis by analysing.

Dr. Marshall Hall's Treatise.—A review of this may be seen in the London Medical and Physical Journal for July, 1820, with copious extracts,—our source of information. Dr. Hall appears to have encountered an epidemic of this affection in the early period of his career, and, without venturing an opinion as to what it was, wrote a treatise of ninety-six pages on it, entitling it, "*Cases of a serious affection chiefly occurring after delivery, miscarriage, etc., and of a similar affection unconnected with the puerperal state.*" The general character of the serious affection of Dr. Hall appears to us to be the same as that of puerperal anæmia, or the nursing sore mouth, since described in the Journals of this country—its victims are the same, and there is a striking similarity in the history and progress of the cases—the whole phenomena in fact, even to the mode of death. Dr. Hall's cases do not, perhaps, appear to have been characterized by as marked a tendency to ulceration of the mouth as the general run of cases described in this country, though, from the fact that those persons were among its frequent victims, who suffered from "aphthæ with irritable stomach," it is evident that sore mouth was a symptom generally in Dr. Hall's cases.

The causes of the affection Dr. Hall supposes to be, irritability and exhaustion following the shock, drain or fatigue of the system incident to parturition, abortion, or lactation.

The subjects of the disease are those exhausted by diarrhœa or other sickness previous to delivery; those of pale, icterode complexion, who had been anasarcous, or who had suffered from aphthæ with irritable stomach and bowels; those exhausted by repeated and prolonged uterine or other hemorrhage, or depletion for subduing inflammatory diseases; and the naturally delicate and feeble. He has seen it suddenly developed after venesection, and also after full purgation. Anxiety, alarm, and disturbance of mind have seemed to cause it. The affection in some instances came on in the latter period of pregnancy. Sudden and unexpected death sometimes occurred after delivery, or even after blood-letting. By a removal of the exciting cause, as a prolonged menorrhagia or an exhausting lactation, the prominent or urgent symptoms frequently ceased. The affection sometimes proved fatal after a more or less urgent, protracted, and varied course; and in other cases there was long-continued indisposition. The doctor attempts to arrange his cases under six varieties, as follow: "1. The acute; 2. The more continued; 3. With general symptoms; 4. With some predominant local affection; 5. As the effect chiefly of intestinal irritation; or 6. Of hemorrhage. The greater number of cases, however, do not admit of being referred to any one of these divisions, distinctly or exclusively, but assume a mixed character." He arranges his account of the symptoms with reference to the regions of the body affected, as follows:

The head.—"Severe pain, beating and throbbing, rushing or cracking noises, vertigo on assuming the erect posture, intolerance of light and sound, wakefulness, starting during sleep, waking hurried and alarmed, faintness, feeling of sinking, of impending dissolution, overcome by noise, disturbance, and thinking even, and delirium.

"*The heart* is in different cases affected with palpitation, fluttering, irregular and feeble action; there are beating and throbbing of the carotids, and sometimes even of the abdominal aorta; great rapidity and sometimes irregularity of the pulse; faintness or fainting; urgent demand for the smelling-bottle, fresh air, fanning, bathing of the temples; feeling of impending dissolution; incapability of bearing the erect position; and sometimes early fainting from V. S.

"*The respiration* is affected in different cases with panting, sighing, heaving, gasping, moaning, blowing, catching, with urgent demand for fresh air. There is sometimes great and alarming oppression about the chest. There is in some cases an irritative cough.

"*The stomach* is liable to become affected with irritability, sickness, retching, vomiting, hiccough and eructation; the bowels with constipation or diarrhœa, pain, flatus, distension, etc.

Muscular system.—" There are very frequently urgent restlessness, tossing about and jactitation. In some cases various spasmodic affections have occurred.

"*The seats of pain* are usually the head, the side, the illiac region, the loins, the uterus, and the abdomen generally. The pain of the illiac region and of the abdomen are often attended with much tenderness."

Dr. Hall impresses the idea that this affection will never bear blood-letting, although the local affections often led the practitioner to believe inflammation present. He does not attempt to explain the nature and pathology of the affection. The broken down and debilitated are its victims, and the greater the weakness the greater the susceptibility. *Males are sometimes attacked with this complaint.* The indication in the treatment is to restore the vital energies.

Remarks.—It is very evident from Dr. Hall's account of this affection, its causes, its subjects, its very varied and grave constitutional symptoms, with complete prostration of the vital powers, while seeming grave local inflammations are apt to set in and mislead in the treatment, that the "serious affection" described by him in 1820, in the British Journals, is identical with the "nursing sore mouth" affection first described in the Journals of this country in 1830 by Dr. Hale; at least it appears so to us, and the anomalous character of the cases being such as to prevent Dr. Hall from naming the disease, is strong confirmation of this. The identity of the two affections being conceded, we here establish another point of great importance in our researches, viz., that *males are sometimes subjects of the complaint.* This accords with our experience, although the idea has never been hinted in the Journals of this country. We have repeatedly seen men and boys subjects of the complaint, and also girls, as well as suckling women. Hence we infer that pregnancy and lactation are causes of the affection only so far as they tend to impair the general health by confinement or want of proper exercise in the open air, improper restrictions in diet, a gloomy state of mind, exhausting drains by hemorrhage, etc.

The special attention of the reader is invited, in these cases of Dr. Hall, to the prominent symptoms, viz. lassitude, sinking, fainting, icteric pallor and anæmia, pain and tenderness of the abdomen, diarrhœa or constipation, aphthous ulcers and other local lesions, hemorrhagic associations, protracted course, getting well when the exciting cause was removed, as an exhausting menorrhagia or lactation, fatal tendency, sudden mode of death after some shock, as parturition, etc. We wish the reader also to notice the sudden development of the disease sometimes after a shock, as blood-letting, catharsis, or merely from the emotional shock of fear. All these are very instructive illustrations.

Contributions of American Physicians.—As before observed, Drs. Hale and Backus appear to have been the first to describe this affection in the United States, and an analysis of their contributions might, very properly, take the lead; but we prefer to place the most accurate account of the disease that has met our view first in order, and therefore give the substance of

Dr. McGugin's Article.—This valuable contribution appeared in the *Western Medico-Chirurgical Journal*, published at Keokuk, Iowa, October, 1851, and is styled "*Stomatitis in Pregnancy and during Lactation.*" In the outset, the affection is stated to be the ulcerative sore mouth consequent upon and occurring during pregnancy and nursing, particularly described by Drs. Hale and Backus. The idea is entertained that it is a disease peculiar to this country, rare on the seaboard, more common elsewhere. The doctor had met with several cases in two years' practice at Keokuk—says its pathology is not understood, and why it appears in certain localities, and whether or not caused by miasm, not known to the profession. Thinks local causes only act feebly in its production, that the real cause is in the system, for that the disease is relieved when the infant is removed from the breast—has found the scrofulous constitution most subject to it—thinks it arises from faulty nutrition, and that pregnancy, which favors excitement in the lymphatic system, somehow tends to develop it—that the glands of the mouth largely partake in the excitement, and in lax and strumous habits the feeble integrity of the tissues gives way to ulceration. Passing from the doctor's theories, we give his more valuable delineation of symptoms.

"The patient complains of burning heat, similar in sensation to that produced by hot fluids, when taken into the mouth. Food, when taken, even of the blandest kind, is swallowed with pain and difficulty, and that which is solid is masticated imperfectly and painfully. The lower lip is tumefied, and turns out and downward, and in the efforts to speak, the saliva, limpid and scalding, pours over it. There is pallor of the face, an anxious and painful expression of the countenance, and a crescentric dark circle below the eye. The pulse is small and frequent, the skin dry, and the mind irritable and despondent. The mucous lining of the mouth is highly vascular and livid in color, the tongue red and often swollen, and early in the attack small granular elevations may be seen along its edges and tip, and still more highly vascular than even the surrounding mucous membrane. These points are highly sensitive, and much suffering is produced when the tongue touches the teeth or jaw. Very soon these show yellow vesicles on their tops, and in a short time these burst, leaving an ulcerated tip or depression, and rapidly, under the ulcerative process, extend themselves over the surface. They now multiply in number, and may be found within the lip, under the tongue, within the cheeks, and in the fauces. Now the suffering is great, for the surfaces of these ulcers are most sensitively endowed. They may extend down the œsophagus into the stomach, throughout the intestinal tube, into the posterior nares, down the trachea, along the bronchiæ, and finally involve the lungs in an irreparably diseased condition."

Case.—"Mrs. W———, of scrofulous predisposition, and advanced to the seventh month of pregnancy, had been laboring under stomatitis for three weeks before advice was taken. The tongue, the lips, the cavity of the mouth and fauces, were thickly covered with ulcerated patches. From the difficulty of swallowing, it was also manifest that it had proceeded downward along the lining of the œsophagus, and it was just as evident that the mucous coat of the stomach was also seriously involved. There was much suffering on deep pressure in the epigastric region, and food was rejected immediately upon swallowing it. The symptoms pointed to a diseased condition of the cardiac orifice. There was at this time some constipation of the bowels. After a time, from a change in the voice, together with a sense of tightness of the part, and stiffness of the muscles of the neck, it was evident that the larynx and trachea were suffering also. There was slight cough, with a muco-sanguineous expectoration, and upon retiring to bed, the semi-recumbent posture was chosen to favor inspiration, in which position the head was thrown back. There was slight dullness upon percussion over the entire thoracic surface. There was feeble respiratory murmur, owing to the thickened walls of the larynx, aided, doubtless, by the preternatural smallness of the chest.

"She had now arrived at the eighth month of her pregnancy, the previous month having been spent in the foregoing developments. The symptoms now assumed a more grave character; the cough was constant and harassing; the sputa thick, tenacious and slightly sanguineous; wandering pains through the chest; respiration difficult at intervals; dullness over the entire thoracic surface, particularly manifest in the superior sternal and the right clavicular regions. There was bronchial respiration, but no vesicular murmur; irritability of the stomach so great as to reject food, drink or medicine. The dejections showed a large admixture of thick tenacious mucus, similar to that expectorated.

"About the middle of the eighth month the following were the symptoms: There had been a large discharge of pus in coughing; pectoriloquy in right infra-clavicular region; the ulceration had extended to the posterior nares, followed by alarming epistaxis, doubtless from the destruction of a vessel in the progress of ulceration; the irritability of the stomach continues as before; colliquative diarrhœa and hectic fever; cough persistent; sputa purulent and muco-purulent.

"Her confinement, which was now close at hand, was looked forward to as an event which would close her sufferings. All the symptoms continued in an exalted form up to this period, when uterine contraction came on, and her labor was concluded in two hours from the first evidence of uterine effort; was easy, and followed by but little loss in discharges. She, however, began to sink rapidly, and in eight hours from the delivery of the child she died. The child was less than the average, but appeared healthy. In a few days, however, as I learned, it sank rapidly with similar symptoms to those of the mother.

"The treatment was such as would naturally suggest itself; but the irritability of the stomach opposed a serious difficulty to the prosecution of any treatment, or a fair trial of any remedial agents internally."

In commenting on this case, Dr. McGugin notes the rapid development and extent of the local lesions, particularly phthisis, which is ordinarily hushed in pregnancy, but here it was developed.

Where the disease comes on after delivery or during lactation, he says, "it is attended with prostration, and even before the attack there is a sense of sinking and depression." Thinks the drain upon the system in the secretion of milk favors the rapid development of the disease, and therefore the infant should be separated from the mother before she is permitted to sink into hopeless anæmia. Suggests that animal chemistry may, by analysis of the milk, yet throw light on the pathology of the disease. Illustrates the imminent hazard that sometimes presents—the mother laboring under this affection, and the infant in the critical period of dentition—to wean may be death to the child, and no t to wean death to the mother. Such a case came under the doctor's care the summer previous, and caused him much anxiety, but he saved both mother and child. The cure of the mother was ascribed to hydriodate of potash, a nutritious diet of broths, and porter as a drink. Several subsequent cases, he says, yielded to the same course of treatment; one especially, where, in a prior attack, weaning the child had to be resorted to in order to save the mother. Dr. McGugin says he has no confidence in any other remedy. The hydriodate of potash in solution also recommended as a gargle, and iodine to be added where the ulcers are "dark and ill-conditioned." Cinchona, porter, nourishing jellies and soups, and warm saline baths. If these means fail, wean the child.

Remarks.—Dr. McGugin's description of the disease and case reported illustrate the symptoms, progress, fatal tendency and sudden mode of death after a shock to the system, so accurately, that nothing is wanting but the anatomical characters to render his contribution complete. To be sure he infers what, no doubt, an autopsy in the case would have revealed, viz.: ulcerations or lesions of the epithilium throughout the gastro-pulmonary branches of the mucous membrane—that is, in spots and patches. The sero-sanguineous salivation, alarming epistaxis, and development of tuberculosis, justify this conclusion.

We have witnessed several instances of *sudden and unexpected death* after delivery in this affection, as noticed by Dr. McGugin and Dr. Marshall Hall, and shall speak more at length of this feature of the disease in our analysis of cases. Suffice it that we invite especial attention to it in this connection, as also to the *hemorrhagic tendency* spoken of by Drs. McGugin and Hall. The reader should also bear in mind the *prostration and sinking*, spoken of by Dr. McGugin before the disease comes on—that is, before the mouth becomes sore. This is doubtless the "forming or fixing stage" of the affection spoken of by Dr. Judkins. The local lesions, then, are secondary, according to these contributors, which accords with our experience. Here then we establish another important point in our researches, viz.: that the local lesions of the mouth, fauces, stomach and bowels, posterior nares, and bronchial membranes, are consequent upon the general or constitutional affection. One other symptom, or rather objective sign, noticed by Dr. McGugin, is worthy of special attention; it is the highly vascular and *livid color* of the mucous lining of the mouth, spoken of. The papillary blisters or yellow vesicles that form on the sides of the tongue, and spread to all parts of the mouth and fauces, stomach and bowels, etc., are spoken of by others, as are constipation and diarrhœa. We wish the reader also to take note that a *salt of potash* is Dr. McGugin's main remedy; not that he was the first to call attention to the efficacy of a salt of potash or soda in this disease, but because he bears testimony to this fact. In the dietary he prescribes, viz.: *nourishing jellies and soups*, aided by porter, cinchona and warm saline baths, he agrees well with other contributors. Calling attention to one other circumstance, viz.: the sinking and death of the infant "with similar symptoms to those of the mother," we will close our comments on this very instructive contribution.

The Contributions of Drs. Hale and Backus are made the basis of the descriptions of this affection to be found in *Stokes and Bell's Practice*, second edition, page 54; and also in *Wood's Practice*, third edition, vol. 1, page 500. Both of these standard authors, Bell and Wood, have taken it for granted that this is a new form of disease, without ever having seen it, or had an opportunity of investigating its character! Both reflect the opinions of Drs. Hale and Backus, that the disease is at first a local affection or ulceration of the mouth, extending by degrees to the fauces, stomach and bowels, and thus secondarily involving the constitution, and breaking down the general health; and both follow the dogma inculcated by these and most other contributors, that the disease is peculiar to suckling women, though it may possibly occur in the latter months of pregnancy. According to these authors, Dr. Hale's first communication on the subject is to be found in the *Medical Communications of the Massachusetts Medical Society*, vol. v., 1830; and his second, in the *American Journal of the Medical Sciences*, April, 1842. Dr. Backus' article in the latter, January No., 1841. We have not seen the original contributions, but the substance of them, as set forth in the articles styled "*Stomatitis Nutricum*," by Dr. Bell; and "*Sore Mouth of Nursing Women*," by Dr. Wood, which are the sources of this analysis of Drs. Hale and Backus' views, and which for reasons that will be obvious shortly, we feel it to be particularly incumbent on us to carefully reflect.

According to Bell and Wood's works on Practice, then, the incursion of the disease is sometimes sudden, and the local affection of the mouth is characterized by loss of taste, scalding sensations, patches of painful pimples on the sides of the tongue and mouth, which after a time ulcerate, and produce very painful sores, with hard elevated edges, and an inflamed circle around them. The inflammation, as the disease progresses, extends over the mouth by means of successive crops or patches of these papillæ; the surfaces of the mouth become exquisitely tender; the taking of food and drinks causes much pain; and a copious salivation sets in. This *local* disease, as it is considered, is not at first attended by febrile symptoms, loss of appetite, or furred tongue, but on the contrary the appetite is good throughout the course of the disease, and the tongue is red and smooth; but if the disease be not arrested, ulceration extends to the fauces, œsophagus, stomach and bowels, and then great intestinal irritation and severe constitutional symptoms supervene, with diarrhœa, debility, emaciation, etc., which overwhelm the patient and often end in death. This gives a condensed outline of the symptoms as recorded in the standard works of Drs. Bell and Wood, professedly drawn from the contributions of Drs. Hale and Backus. Dr. Hale, it is stated, has seen considerable loss of the substance of the tongue by sloughs; and Dr. Backus has noticed so sudden an attack that, "in three hours' time after seeing your patient in health, you may find her with a scalded tongue and fauces, and unable to converse or take food." [!]

The cause of the disease is ascribed to some unknown baneful influence, exerted on the system by nursing. [!]

The subjects are wholly women in the suckling condition; or if pregnant women are attacked, they are those who had had the disease previously while suckling, and had established a predisposition to it. It is very apt to recur in subsequent nursings if a woman has once had it.

The constitutions most liable to it are the leuco-phlegmatic and dyspeptic, which are habitually costive; but others, even the most robust, are sometimes its victims. It appears to be much more prevalent in some localities than others.

The prognosis is generally favorable, if the constitutional symptoms of exhaustion have not run too long; and it is chiefly where there is a predisposition to phthisis that alarm need be felt, and the child weaned. Notwithstanding the wasting and weakness of the mother, the secretion of milk holds out, and the child continues vigorous and healthy.

The treatment is rested mainly on tonics, laxatives, *lemon-juice and bicarbonate of potash* in effervescing draughts, *tartaric acid* in small beer, and porter, with nourishing diet; at least this is Dr. Hale's treatment, and very little value is attached by him to local treatment, Dr. Backus recommends chalybeates combined with laxatives. The nitrate of silver is recommended as a local application. Weaning the child is thought to be an effectual measure.

Remarks.—The above is a faithful abstract of the accounts given of this affection, by Drs. Bell and Wood, drawn from the contributions of Drs. Hale and Backus; and no one, we presume, will question the identity of the disease with that described by Drs. McGugin, J. P. Hall, Marshall Hall, Ellsworth, and Judkins. The several descriptions all comport in the main. There is nothing particularly important in the descriptions of the affection as drawn from Bell and Wood, over and above that of others, on which we can rest a point, save in the treatment, viz.: that *lemon-juice*, *tartaric acid* and *a salt of potash* are effectual remedies.

To post up the several points made in our researches, by way of keeping the mind refreshed, we find we have made the following, viz.: 1. The nursing sore mouth is not an affection peculiar to nursing women. 2. It manifests itself epidemically after cold protracted winters. 3. Males are sometimes its subjects. 4. The local lesions are secondary. 5. The vegetable acids and salts of potash are effectual remedies. These points we think are clearly established, to say nothing of the balance of the testimony, all tending in the same direction, and, as we think, conclusively proving that this anomalous affection, which has been stumbled over by the profession in Europe and America for the last thirty years, is nothing more nor less than LAND SCURVY. This has been our conviction for many years, since 1835, when we first encountered it, and met it successfully with antiscorbutics. In 1851 we reported sundry cases of it successfully treated on this plan, in the *New York Journal of Medicine*, and presumed it was only necessary to call attention to its *real and true nature* to have the matter fully appreciated. We there remarked as follows: "These cases are reported because of their practical bearing. Marvellous accounts of this nondescript disease, called 'nursing sore mouth,' appear from time to time in the journals; and why some one has not set its nature and pathology to rights, who is in the habit of contributing to, and fond of appearing in the journals, I am at a loss to understand." But it seems "we reckoned without our host," for Dr. Wood still adheres to opposite conclusions, which are being widely disseminated. He closes his article on "*Sore Mouth of Nursing Women*," with an allusion to our views as follows: "Dr. M. L. Knapp, formerly Professor of Materia Medica in the University of Iowa, considers this disease as essentially scorbutic; and has treated cases on this principle successfully, which have come under his notice; but the affection, as described by Drs. Hale and Backus, has not the peculiar features of scurvy, and differs probably from that noticed by Dr, Knapp."

Now our object in elaborating this subject is to arrive at the truth. Dr. Wood is a prominent author, his opinions have deservedly much weight, and, as we are at issue on a question of fact, as to whether or not the affection described by Drs. Hale and Backus presents the peculiar features of scurvy, we invite a careful attention to the subject. If a scalded, drivelling sore mouth in female subjects, exhausted and prostrated by breeding and nursing, displaying increasing patches of ulceration of the mouth, tongue, fauces, and extending to the bowels and bringing on diarrhœa, profuse salivation and complete prostration of the system, development of grave and complex constitutional symptoms and local lesions—if these phenomena do not present the leading "peculiar features" of land scurvy, we ask what symptoms do? and if lemon-juice, tartaric acid, and a salt of potash prove effectual remedies, what then? We are not ambitious to "shiver a lance" with Dr. Wood; but nevertheless, as our views are crowded to the side of error by him, in the diagnosis of a disease in which we have had much experience at the bed-side and he none, we owe it to medical science and humanity, to endeavor to right ourself, and stay the promulgation from so high authority of so absurd a medical philosophy as teaches that this is a *new disease;* that it is *peculiar to nursing women;* that it is caused by some *unknown baneful influence exerted on the system by nursing, etc., etc.;* and that denies that *soreness of the mouth in a suckling woman, anæmia, prostration, salivation and diarrhœa,* present the "peculiar features" of scurvy; and where, in the same breath, it discloses unwittingly the reason why *lemon-juice, tartaric acid and a salt of potash* are reliable remedies!

Dr. Channing's Article.—In the *New England Quarterly Journal of Medicine and Surgery,* for October, 1842, is an article on this affection, with cases, which is epitomized in the *Maryland Medical and Surgical Journal* for December of the same year, as follows:—*Notes on Anhæmia, principally in its Con-*

nections with the Puerperal State, by W. Channing, M. D. The cases detailed in this article are quite interesting, and seem to demonstrate the existence of some pathological condition other than the loss of blood, producing the condition which Dr. C. thinks is improperly called *anhæmia*. He ventures to suggest, and sustains his suggestions with great plausibility, that this pathological condition consists, if not entirely, at least in great part, in the subversion of the functions of the capillary system, by which the blood passes from the arteries to the veins, without undergoing its usual changes. The symptoms of this condition are a brilliant whiteness, smoothness, roundness, dryness and warmth of the surface every where ; the blanched lips, mouth, tongue ; the scarcity of external or subcutaneous veins, and the bright pink color of their contents, with the want of the roundness in these vessels, which results from fullness, various noises in the head, the mind in various states, but generally having a serene anticipation of death. There is tumultuous action of the heart. Dr. Channing, sustained by his cases, infers a close connection between the puerperal state and this morbid condition, and in such a connection the disease is most fatal. The cause of the disease being so obscure as it is, the treatment is necessarily undefined, and can only answer obvious indications. Dr. C. suggests as an inquiry, what might be the effect of transfusion ?

Remarks.—The 'puerperal anæmia' of Dr. Channing is evidently the 'serious affection' of Dr. Hall, and the 'nursing sore mouth' of other contributors. Doubtless also it is the 'hydræmia gravidarum' and 'endangium out of order' of Dr. Meigs, and the 'leucocythemia' of Dr. Bennett. There is something behind the scene in the pathology of all these watery blooded cases, with a powerless fiber, palpitating heart, panting respiration, and a brain looking with serene anticipations on death, that stamp them as more than simply *anæmia*, or loss of blood, as Dr. Channing says, and we fully agree with him that the affection is improperly called anæmia : it is the scorbutic diathesis developed in various degrees and in various ways, and sometimes in delicate females by improper restrictions in diet under medical direction. The materials for healthy blood have been withheld from the dietary, or the organs of digestion so deranged that nutrition and assimilation have become starved of their rights. It appears idle to us to look for the cause of the difficulty in some unknown, mysterious disturbance of the functions of the capillaries, as Dr. Channing suggests, or in the endangium as Dr. Meigs conceives, or in the spleen as Dr. Bennett argues. No doubt the capillaries, the blood membrane, and the spleen are all at fault, and suffer from impoverished blood. All the solids are equally as hydræmic, or leucocythemic, as the blood itself; hence the softening of glandular structures, and local lesions of the tissues. Where the causes and the coöperating causes are acting powerfully, as in a delicate breeding woman who has suffered in the earlier months of her pregnancy from morning sickness, and in the latter months from heart-burn, and who has been dieted on tea and toast, ulcers of the mouth should break out before delivery; but under more favorable circumstances there may be no local lesions, and yet very marked constitutional derangement. We have met with cases of years' standing where there were no ulcers of the mouth, only a lividity of its tissues, without salivation, even; and we have known cases of the affection to terminate fatally where soreness of the mouth was not complained of at all.

This leucocythemial, or white cell blood diathesis, is particularly prevalent in malarious districts. We have seen much of it under such circumstances in both sexes. It is much more frequently met with, however, in females, from the chlorotic girl to the suckling mother, than in males, as the victims of land scurvy are "principally women." (*Good.*) Iron alone is not a sufficient remedy, though we agree with Dr. Meigs (Letters to his Class *On Woman and her Diseases,*) that it is a good one; but all the elements of a healthy nutrition, as furnished in the "good rich diet" advised by Dr. Judkins, and the "nourishing jellies and soups" recommended by Dr. McGugin, together with the acidulated drinks of Dr. Hale, must be judiciously brought to bear upon these cases, aided by tonics, and a correct hygiene; which being found effectual, proves our views of the nature of the malady correct.

Dr. Channing infers a connection between the puerperal state and this morbid condition, in which connection the disease is most fatal. Others have inferred its connection only with the later period of lactation; but we have seen that it is also associated with gestation, and furthermore, that it is often the inheritance of infancy. The majority of infants at the breasts of mothers laboring under it, imbibe it. This we have verified over and over again, during the last twenty years, by the success of the lemon-juice treatment. We have rescued hundreds of puny, suckling infants, covered with indolent boles, or wasting under diarrhœa, simply by the administration of lemon-juice to the mothers, and throwing away the blue pill mass, etc., with which they were being drugged. Now the records of scorbutus show that infants imbibe the diathesis from the impoverished materials afforded by the milk of mothers laboring under it. And who so blind as not to see the identity? But let us briefly trace this infantile inheritance from nursing sore mouth or scorbutic mothers. If the infants live to be weaned, thousands upon thousands of them perish of cholera infantum during their second year. If some of them reach puberty, the vis vitæ is too feeble, and green-sickness sets in, and ends in the local lesion of tuberculosis If chlorosis be averted by chalybeates and a proper hygiene, still the leuco-phlegmatic constitution is formed in the girl, as her lax solids and palid countenance, lucorrhœa, falling of the womb, and tendency to local lesions of the os, import; and when this victim becomes a mother, nursing sore mouth sets in as a matter of course. Our philosophy, then, goes further back than simply to note that the leuco-phlegmatic constitution is the one for ever liable to nursing sore mouth; it explains the *cause* of this constitution, lifts the curtain and gives us a peep behind the scene.

Dr. Shanks' Article.—This article, *On Endemic Sore Mouth and Diarrhœa peculiar to Nursing Women*, by LEWIS SHANKS, M. D., of Memphis, Tennessee, we find epitomized in the December number of the *Maryland Medical and Surgical Journal*, December, 1842, drawn from the *American Journal of the Medical Sciences*, October, 1842, as follows: "In the treatment of this malady, when it occurs in the last months of gestation, as it sometimes does, Dr. S. relieves the excitement in the robust and plethoric by bleeding, followed by alteratives and laxatives, such as blue mass, calcined magnesia, and rhubarb in small doses; in those of feebler health, in whom there is little or no feverish excitement, he prescribes, as a tonic and alterative laxative, a combination of blue mass, ipecac, carb. of iron, rhubarb and aloes in proportions to suit each case. Ipecac alone, in doses of from one half to two grains, is a good remedy.

During nursing, when the disease becomes chronic and is attended with diarrhœa and emaciation, a course of alteratives and a rigid attention to diet are indispensable. In some bad cases a solution of arsenic and corrosive sublimate, containing of each a sixteenth of a grain for a dose, given two or three times a day, with a diet and drink of soda with barley water, or of wine and water and milk, has succeeded better with Dr. S. than any other course he has tried. As a wash for the mouth, the infusion of sanguinaria is recommended by him. Weaning the child is indispensable in grave cases attended with much emaciation and nervous irritation. In a description of this disease as it occurred at Rochester, N. Y., Dr. Backus says, the onset is often sudden and the bowels always constipated; and the most successful treatment is with alteratives and laxatives combined; but at Memphis, Tennessee, it comes on gradually and in its well-marked chronic form, which never occurs except during lactation; the constant diarrhœa excludes the use of purgatives or laxatives. In the same city, and in the level alluvial country near it, constipation is rare either in health or disease.

Dr. Taylor's Article.—We find an epitome of this also in the *Maryland Medical and Surgical Journal*, March, 1843, drawn from the January number, same year, of the *American Journal of Medical Sciences.* It is entitled *Remarks on a Species of Sore Mouth peculiar to Nursing Women;* by B. W. TAYLOR, of Monticello, Fa. "After having tried various tonics, vegetable and mineral, and laxatives, with only partial success, Dr. T. has found that equal parts of sulphur and cream of tartar in broken doses, to keep the bowels open, constitute the best treatment as regards internal remedies. It appears to have almost a specific influence over this disease. The best external application he thinks is borax. He has also derived great benefit from a weak solution of nitrate of silver. In cases attended with considerable exhaustion, the sulphur and cream of tartar should only be used to the extent of obviating costiveness, if it exist; and tonics, such as iron, cinchona, and elixir vitriol should be given. Porter is also advised. Should the case be complicated with diarrhœa, opiates should be given, with mucilaginous drinks and farinaceous diet. In cases that prove refractory, wean the child, when a speedy cure will take place."

Remarks.—This article furnishes further proofs of the efficacy of the salts of potash and soda in this disease.

Dr. Ware's Article.—In the *American Jour. Med. Sciences*, 1849, is a brief article on "*Nursing Sore Mouth*, by J. YALE WARE, M. D., of Massachusetts," stating that the affection is rapidly on the increase in that locality. No symptoms or cases are given, but Griffith's myrr. mixture is recommended as an infallible remedy. Nitrate of silver as a gargle is also advised, of the strength of two grains to an ounce of water, and a teaspoonful to be swallowed three times a day if soreness extends to the stomach. It is believed if this course is pursued weaning need not be resorted to.

Dr. Holt's Article.—A brief article appeared in the *New*

York Jour. Med., in May, 1848, from the pen of HENRY D. HOLT, M. D., of New York, recommending the hydriodate of potash in five-grain doses three times a day, given in the compound decoction of sarsaparilla. This had proved effectual in sundry obstinate cases. The doctor says, "without propounding any theory of the pathology of the disease, or modus operandi of the medicine, I feel persuaded that the one is as near being a specific for the other as can well be conceived."

Dr. King's Article.—This article of Prof. JOHN KING, M. D., of Cincinnati, appeared in the *Eclec. Med. Jour.*, April, 1852, and although it gives a similar account of the disease to that which may be found in Bell or Wood, presents nothing particularly new in the history or treatment, except that it is stated there *is always a dry, inactive state of the skin*, for which alkaline washes and the spirit vapor bath are recommended. And we take leave to add, that the skin is always *scurfy*, oftentimes sprinkled with *petechiæ*, and in some instances of extreme prostration we have seen *vibices.*

Thus much for the history and literature of the affection, embodying the present state of medical knowledge on the subject. Some few other papers giving an account of the affection have appeared, we believe; but, so far as we have been able to learn, the disease has never been suspected of being of scorbutic character by any contributor save ourself. We are not able to say what the impressions may now be on the mind of the profession, after an examination of the literature of the affection with the key of explanation offered by us, nor are we anxious at all about the matter further than the interests of science and humanity are concerned. Indeed we would rather regret to have proselyted many to our views in this early stage of our inquiry, lest interest in the subject flag, and would rather invite a supension of opinion until we shall have pushed our inquiry through its several chapters. A question in practical medicine as important as this, deserves to be well and carefully considered, and all opinions sifted before final conclusions be drawn. This chapter is but preparatory—the collated views of others. If after our researches shall have been completed, it turns out to be the general sense of the profession that the nursing sore mouth affection is a *new disease,* then let it be retained in Wood, and in Stokes and Bell, and inserted in other standard authors; but if it be proved to be *scurvy*, let us study that disease instead, which, we think, has been culpably overlooked of late years.

Doubtless the same liability exists in the human constitution, to take on the scorbutic diathesis, that has existed since the days of Hippocrates, by whom it was first described, and that existed in all time before, and that will always exist to the end of time, under a faulty alimentation or a meager supply of proper materials for forming healthy blood, perverted digestion, and obstructed aeration.

This faulty condition, no doubt, obtains to a very considerable extent in the present state of society and modes of life, even under our improved notions of the etiology of scurvy and the more general attention paid now-a-days to gardening and fruit culture. The poor inhabitants of cities, who are compelled by necessity to the daily infraction of the laws of a healthy dietary, are thereby rendered more or less scorbutic unquestionably, a standing cause of the aggravation of all their diseases, and of the vast amount of infantile mortality in our large cities; and we shall show conclusively, before we finish these researches, that the rich and high-born are frequently rendered the victims of scorbutus by mistaken notions as to what constitutes a proper and wholesome dietary; in other words, that restrictions in diet together with sedentary habits lay the scorbutic diathesis in the symptoms of many a breeding woman in high life.

Art. IV. *Luxation of the Head of the Radius backward, with Fracture of the Inner Condyle of the Humerus.* By Thomas M. Markoe, M. D., Surgeon of the New York Hospital.

To an anatomist studying the construction of the elbow-joint and the attachments of the two bones of the fore-arm to one another, it would appear evident, I think, that luxation of the head of the radius alone must be an exceedingly rare occurrence. Not only is the upper end of this bone protected from direct external injury by being deeply imbedded in muscles, but the whole length of the bone is so firmly bound to the ulna, that an immense amount of force transmitted through the hand would seem to be necessary to separate all these interosseal attachments. Observation proves the correctness of this conclusion, and shows that luxation of the head of the radius alone is one of the rarest of all the injuries which occur at the elbow-joint. The luxation forward, in which the capsular and annular ligaments are ruptured, and the head thrown forward, so as to lie upon the anterior aspect of the external condyle, would appear, anatomically speaking, to be the most possible, because there is here only a separation of the upper portion of the bone from its ulnar attachments, the lower end of the two bones not being separated from one another. With regard to the luxation backward, where the head of the radius passes behind, and to the outside of the external condyle, I am myself disposed to say, after a good deal of experiment and reflection, that it is physically impossible without the concurrence of one of three conditions; either, first, such a projection of the ulna at the wrist as we must suppose would be produced by the ulna remaining sound, and the radius slipping up from it one inch, a projection which must necessarily produce a great deformity in the position of the hand and in the appearance of the wrist-joint; or, secondly, a bending outward of the fore-arm at the elbow to such a degree as to make a lateral angle of nearly 45°; or, lastly, a fracture either of the ulna itself, or of its trochlear base of support on the humerus, which, by displacement, would permit the radius to be thrown from its articulation backward. In the absence of all of these effects and evidences of the luxation of the head of the radius backward, I cannot myself conceive the possibility of its occurrence, any more than I can conceive of a luxation of the hip on the dorsum of the ilium, without some shortening and deformity of the corresponding limb. In order to test the accuracy of my *a priori* reasoning, I have searched the records somewhat extensively for such cases as might have been reported, and I have not yet succeeded in finding one single unequivocal and undoubted case. Sir Astley Cooper had never seen this accident in the living subject, though he gives an account of a dissection of an old case of this luxation without saying any thing about the deformity produced, or of the possibility of the injury having been complicated originally with fracture of the ulna or humerus. Indeed, of the few cases which are reported, a large proportion have been seen by the reporters only after years have elapsed from the occurrence of the injury, and when the presence or absence of fracture could not be ascertained, and when any original deformity produced by the accident must be much modified by use and time. Sir A. Cooper alludes to another case, in the practice of one of his friends, but no account of the symptoms is given. He also, in his work on "Fractures and Dislocations," quotes two cases published by Langenbeck of Gottingen, which were considered as cases of simple luxation of the head of the radius backward. The first case, that of an adult, was not seen for six weeks after the accident, in which time a fracture would have firmly united; and in the child's case not a word is said of the signs or appearances presented. Langenbeck makes the remark, that with the exception of these two cases "I never met, during the whole course of my professional career, with a dislocation of the radius in any direction." In the *Dictionnaire de Medècine*, article "Coude," by Cloquet and Berard, the backward luxation is spoken of as occurring, though no case is given but the one of A. Cooper already alluded to. In a clinical lecture by

Gerdy, in the *Archives*, on Luxations of the Radius, a case is mentioned of lateral displacement of the head of the bone, which had occurred in infancy, but of which at the time of the accident nothing was known, and no other case is quoted, though the opinion of Boyer and others is alluded to, that the luxation backward is more common than the luxation forward. Vidal de Cassis goes extensively into the consideration of the subject of fractures and luxations, and says, that luxation backward is the more common form, but gives no case. Baron Boyer, who also treats the general subject very fully, merely asserts, that the luxation backward is the only possible form, and of it he gives a description *in extenso*, without however alluding to either of the three conditions, which seem to me to be so essential as physical results of the accident.

If we turn now our attention to the second feature of the accident under consideration, we shall be surprised at the discrepancy of opinions with regard to the frequency of its occurrence. Most of the principal authors, who treat largely of fractures, speak of fracture through the internal condyle as occurring not unfrequently, while Malgaigne, a prime authority, says, after alluding to the above opinion as held by Desault, Charles Bell, and Astley Cooper, "In spite of this triple authority, I regard this lesion as excessively rare. I have never seen it for my part. Neither Desault nor Charles Bell gives any examples of it, and in the single case cited by Astley Cooper there was, at the same time, fracture of the condyle and fracture of the olecranon." Malgaigne, however, alludes to a case which was presented to the Academy in 1828, by M. Caffort, in which "a woman aged forty-five years fell upon her elbow. M. Caffort recognized immediately a luxation, of which he obtained the reduction with a facility which surprised him. Examining afterward the joint, he perceived that the internal condyle of the humerus was very movable, and a manifest crepitus, joined to this sign, left no doubt as to the existence of the fracture." This is a case precisely in point in reference to our present inquiry, and it is only to be regretted that some details of the appearances of the injured joint are not given. In Cooper's work on *Fractures and Dislocations*, the editor has introduced a full account of a case, which he calls "dislocation with fracture of the internal condyle," which was sent to Sir Astley for his opinion, which opinion, however, is not recorded, except so far as the above title would indicate his views as to the nature of the injury. The case is one of a young lad aged fifteen, who was thrown from his pony, and dislocated in the fall his left elbow. "Both bones of the fore-arm were dislocated. The ulna was thrown backward, and the radius also lying toward the outer condyle completely separated from the ulna. The ulna was easily reduced by extension over a bed-post; the radius, however, did not return to its place. I then accomplished its reduction by an extension of the hand, pressing the head of the radius forcibly downward with my thumbs at the same time." The cure was tedious, and, ten weeks after the accident, the bones appeared to be in their proper relations, excepting a slight increase of the space between the olecranon and the prominence of the internal condyle, and a bony projection between these two points. The writer of the case concludes: "It appears to me probable, either that the swelling, which seems to be partly of a bony nature, may have been produced by inflammatory action, consequent on the injury, or from that portion of the trochlea of the humerus which forms the inner ridge supporting the ulna having been broken off at the time." With the exception of these two cases I have not found, in any of the principal systematic treatises on fractures and dislocations, any allusion to the possibility of the occurrence of the accident under consideration.

The three following cases having come under my immediate observation, have brought the consideration of this peculiar accident very strongly before me. I have thought them worthy of being placed on record, because, having encountered three examples in about six years, I could not but suspect that the injury described might be more frequent than was commonly supposed, and had escaped notice by being confounded with simple luxation of the fore-arm, or with some of the many other complicated and obscure injuries which so often occur about the elbow-joint.

Case 1.—During the fall of 1849 I was sent for to see J. H., who had a day or two before fallen from a hay-loft, striking upon his left elbow. Great pain and inability to move the limb followed the accident, and soon after very great swelling round the injured joint, so that at the time of my seeing him it was impossible to trace the bony prominences of the articulation, and therefore an accurate diagnosis was out of the question. I was forced, therefore, to content myself with supporting the arm in a sling, with the elbow in a semi-flexed position, which was a comfortable one, and applying a cooling spirit-lotion to the inflamed joint with a view of reducing the swelling. This was sufficiently accomplished, at the end of a week's time, to enable me to ascertain that the head of the radius was dislocated backward, and projected behind the external condyle in such a manner that the finger could very plainly recognize the cup-like depression on its superior surface. At the same time, though there was some deformity about the internal portion of the joint, yet there was not sufficient projection backward of the olecranon for luxation of both bones, and the exact relation of the internal condyle and the olecranon could not be fully made out on account of the swelling, which seemed to be greater on this side than on the other. There was a slight feeling of crepitus somewhere about this internal portion of the joint. There was no considerable deformity in respect to the position of the fore-arm and the arm, and no deformity at the wrist. In thinking over the symptoms of this case I could not satisfy myself that it was possible for the head of the radius to be so completely displaced, without either a corresponding projection of the ulna at the wrist, or else a fracture of either the ulna or its trochlear support, which might permit the radius to slip up, or finally so great a degree of bending laterally outward of the fore-arm on the arm, as would amount to an angle of more than 45°. In deciding upon these physical possibilities, the symptoms so evidently pointed to fracture of the internal condyle through the trochlea that I could scarcely avoid making that my diagnosis. It seemed to me clear that the fracture had involved the inner condyle in such a manner as to pass obliquely across the bone, and to include in the broken fragment the larger part of the trochlear articular surface, which being displaced backward would allow the ulna to fall sufficiently back to give the radius a chance to be entirely luxated. This view was confirmed by a very thorough examination of the part, made while the patient was under the influence of chloroform, to which we subjected him to facilitate our attempts at reduction. The displacement was easily reduced by extending the fore-arm on the arm steadily for a few minutes, and making firm traction in the length of the limb, and then bending the elbow to a right angle over the knee. All deformity ceased, and all the motions seemed to be restored. My impression is, that after the reduction, the crepitus became more distinct, and more clearly referable to the internal condyle; but, as I took no notes of the case at the time, and am now giving it from memory, I cannot insist upon that point. The limb was kept in a curved tin splint at about a right angle for three weeks, to give the fracture time to unite. Passive motion was then begun with great care. The arm was gradually restored to its functions, and by the end of a year was as strong and as useful as the other. Two or three years after the accident I examined the elbow, and the only trace which it presents of the injury is a slight thickening and irregularity about the internal condyle.

Case 2.—Patrick Riley, æt. 16, an Irish sailor boy, was brought to the New York Hospital, June 5, 1854, with an injury of the right elbow-joint, received a short time before in a fall from a load of wood. At first sight, the appearance of the joint was that of a luxation backward of the fore-arm;

but upon a more careful examination, it was perceived that the olecranon did not project backward nearly as much as is usual in the complete luxation. The head of the radius was manifestly dislocated backward, and the cup-shaped extremity of it could be felt and even seen projecting behind and below the external condyle of the humerus. On the inner aspect of the joint the olecranon could be felt about half an inch further back than it should be, and, in connection with it and displaced backward with it, could be felt the internal condyle of the humerus, while a little above the point usually occupied by the prominence of the condyle, was a sharp, bony projection, which was evidently the extremity of the inner condyloid ridge from which the condyle had been fractured off. The movements of the joint were very much limited in every direction, and in particular, rotation of the radius was much restrained. The case was regarded as one of fracture through the internal condyle, as it forms the base of support for the trochlear articulation, with such a displacement backward of the fractured portion as would allow of complete luxation of the head of the radius. The accident being recent, and examined under ether before any swelling had commenced, the points on which the diagnosis was founded were very clear and easily recognizable, and the conclusion arrived at was confirmed by two of my colleagues who saw the case. By drawing down firmly, and flexing the fore-arm on the arm, the reduction of both displacements was easily effected, but slipped out again with equal facility if not carefully handled. After the reduction crepitus became more manifest, and could be referred with precision to the moving of the fractured condyle. The arm was kept in the semi-flexed position, and supported in a grooved tin splint for the usual time, when passive motion was carefully commenced. The recovery was accomplished without accident, leaving him a limb perfect in all its movements, but showing some little deformity, perhaps from slight displacement backward of the broken fragment of the condyle. None but a very curious eye, however, would observe any difference between the two limbs.

Case 3.—B. P., æt. about 14 years, was brought to me by a gentleman of this city, under whose care the case had been for about a month, for my opinion on an injury of the left elbow, which he had sustained four weeks previously by a fall in which the inner part of the joint struck with force against a projecting corner of a trunk. Great swelling had taken place before Dr. —— saw the arm. He could detect obscure crepitus, but the great swelling prevented a satisfactory examination from being made. He, however, considered the case as one of luxation backward of the fore-arm, with fracture through the epiphysis of the humerus, and fracture of the coronoid process. He reduced the luxation and bent the arm at a right angle, and placed upon its anterior surface an angular elbow splint, with two corresponding ones on the arm and fore-arm behind. These were kept on about three weeks, and then passive motion was commenced.

I found the limb extended nearly to the straight position. Flexion at the elbow was very painful, and so much constrained that it could not be brought up nearly to a right angle. There was great deformity of the elbow-joint, but the inflammatory swelling had very much disappeared, so that it was easy to make out the following points. The olecranon and the head of the radius were in their proper relation to one another, and their motions upon one another, though somewhat restrained, were easy and gave no pain. The external condyle was prominent toward the outer and anterior aspect of the joint, and behind and to the outside of it was seen and felt the head of the radius, into the cup-shaped cavity of which the finger could be introduced. The relations of the internal condyle with the olecranon were but little altered, but there was nevertheless such a projection backward of the olecranon, as, in connection with the luxation of the radius, to give the joint the appearance of luxation backward of the fore-arm. That the ulna, however, was not displaced from its articulation with the humerus in the usual way appeared certain; first, because the projection backward of the olecranon, though marked, was not as great as in the complete luxation backward; and secondly, because the internal condyle and the olecranon were in almost their proper proximity to one another. The humerus, in the region of the internal condyle and of the trochlear cavity, was a good deal thickened, and apparently enlarged by the deposit of new bony matter. The whole lower extremity of the humerus was felt prominent on the anterior aspect of the joint, as it is in luxation of the fore-arm backward. From these appearances I made up my mind that the accident had been originally one of those above described, in which a fracturing off of the whole or a part of the trochlear surface had, by its yielding, permitted the peculiar luxation of the radius, and the displacement of the ulna. As far as I could ascertain, union of the broken piece had already taken place, but that union was probably still soft. I therefore recommended that the reduction should be attempted in the usual manner, by traction and flexion over the knee, and that afterward the limb should be treated as an ordinary fracture of the internal condyle, by being bent to less than a right angle and confined in this position for three weeks, beginning then with cautious passive motion. The reduction was effected as recommended, the next day, when all the deformity ceased, the union of the broken fragment being so soft as to yield without trouble, and the motions of the fore-arm on the arm became perfect. The after treatment was fully carried out; and when I saw him, seven weeks after, he was rapidly regaining the motions and power of the limb. A good deal of thickening remained about the region of the fractured condyle, but the bony prominences of the articulation had all regained their normal relations to each other, proving that the bones were in their proper position.

The diagnosis of this injury is founded, first, on the appearance of the elbow. The backward prominence of the dislocated fore-arm is not near so great as in the ordinary luxation of both bones, while the prominence of the radius is so marked that it attracts the greatest share of attention. Secondly, the relation of the internal condyle and the olecranon is almost undisturbed. A slight difference, in feeling these points on the two arms of the patient, arises from the fact that, as the fragment of the condyle is displaced backward, it is rotated somewhat upon itself, so that while the upper point of the fragment, which corresponds to the condyloid ridge, is held partly in place by the periosteum and the muscular origins, the lower part, which corresponds to the articular surface, is pushed back half an inch or more. This rolling of the fragment produces a slight difference on the two sides in the relation between the olecranon and the condyle, which can be felt, but not easily described. Where however the displacement of the fragment is more complete, we can feel distinctly the sharp point of the condyloid ridge from which the fragment has separated, as in case No. II., and here we have the relations of the olecranon and condyle unchanged. The importance of this sign, drawn from the unchanged position of the internal condyle and olecranon, which in fact is the characteristic feature of the injury, will be appreciated when we remember that in the ordinary luxation backward of the ulna, the humerus is thrown forward of the coronoid process, thereby making the olecranon to project fully one inch behind the inner condyle. Thirdly, the facility with which the luxation is reduced and the ease with which the deformity is reproduced. This is not only a striking feature of the injury, but is a reason why the treatment must be carefully conducted after the reduction, and why, when the accident is not fully understood, the original deformity would be likely to be reproduced during the treatment, and the use of the arm be perhaps entirely lost. Fourthly, the crepitus and the false point of motion, which can be best appreciated when the reduction has been effected. When the joint is much swollen, as in case No. I., or when the injury is examined some weeks after the accident, as in case No. III., this sign of course would be indefinite or entirely absent; but in a recent case, before swelling has commenced, as in case No. II., this symptom is very distinct and easily elicited.

The treatment is directly deducible from the case itself. The displacement must be reduced, and the fractured surfaces must be replaced and kept in position during a sufficient time for union to take place, and then passive motion must be cautiously commenced. The reduction is easily accomplished by drawing the fore-arm downward and, after moderate traction, bending the fore-arm on the arm to less than a right angle. The more difficult and more important indication however is to keep the bones in proper relation till the fracture shall unite. This I think is best accomplished by the plan already alluded to, of placing the elbow, bent to less than a right angle, in a tin angular splint, which may be placed either on the posterior or outer aspect of the limb, and then by moderate compression with a roller round the elbow keeping the detached fragment against the humerus as far as possible. By bending the joint at less than a right angle the ulna itself acts as a splint, and, by its support on the uninjured portion of the trochlea, holds in its place the lower or articular part of the fragment, to which it is of course attached by the ligaments. The upper point of the fragment is kept in position by the pressure of the bandage, to which might be added, if necessary, a soft compress of lint, or even, if the fragment were large, a straight splint for more thorough support. In case No. III., the gentleman in attendance applied an anterior elbow splint, and two separate ones behind, above and below. It is very evident that, without very tight compression with a bandage, and even then indirectly and imperfectly, proper support could not be given this way. I think that the splint is best placed on the outside or on the posterior aspect of the limb, as in either of these positions direct support is given against backward displacement of the joint. A splint on the inside is equally useful, but is objectionable by covering up the part which you wish to watch with most care. The splint which I have used is tin, guttered so as to receive one half of the circumference of the limb, and made to measure by the tinsmith to each particular case. It should be bent at about

10° less than a right angle, and firmly soldered, with a hole opposite the external condyle to prevent abrasion or pressure. In this position the limb should be kept for about three weeks, when passive motion and time will perfect the cure; and, from my limited experience, I should hope usually with perfect restoration of the form and function of the injured joint.

New York, April, 1855.

Art. V.—*On the Use of Large Doses of Quinine in Intermittent Fevers.* By Stephen W. Williams, M. D., late of Deerfield, Massachusetts, now of Laona, Winnebago County, Illinois.

It is not my intention to enter into a disquisition upon the treatment of intermittent fever, generally. This must be as variant as the symptoms by which it is diversified, and it requires as much skill and judgment in the management of this complaint as of any other specific fever. Were it otherwise, the practice in this kind of fever would be empirical, and quinine would be considered an absolute specific in it. True it is that this article is considered, by most physicians, to be the most efficacious of any which has been employed, and it is more generally used than any other remedy. But it is not the only one, and other remedies are necessary, according to the variation of the symptoms.

Our object in this investigation is to inquire, whether many physicians at the West and South are not in the habit of using it in larger doses, and more profusely, than absolute necessity requires. It is a medicine of prodigious power, as may be known from the fact that twelve grains of it, if properly prepared, contain as much of the active principle as an ounce of the bark from which it is obtained. More than two drachms of the bark, in substance or decoction, cannot be borne even by a healthy man without producing highly stimulating and irritating effects. Many physicians are in the habit of administering from ten to thirty or forty grains at a dose, and even much larger portions at once, and the quantity of quinine which is vended at our markets at the

South and West is immense. But are not such enormous doses often followed by very serious results? And are not such doses, frequently repeated, poisonous? Our best writers on the Materia Medica, such as Perrane, Wood and Bache, Lee, Drake, and many others, speak of from one to five-grain doses as generally amply sufficient, though in malignant intermittents some of them recommend larger doses, but not so frequently administered.

Doctor Lee, in a note to his edition to COPLAND'S *Dictionary of Practical Medicine*, vol. i., p. 1096, says: "After preparing the system, by blood-letting or emetico-cathartics, for the quinine, we usually prescribe it in doses of two grains every hour, commencing three or four hours preceding the paroxysm, or one grain every half hour, beginning six hours before the paroxysm. These doses will, in ordinary cases, prove amply sufficient, and no injurious consequences follow their administration."

Dr. Drake, the great medical pioneer of the West, in his voluminous and most valuable work on the "*Principal Diseases of the Interior Valley of North America*," in condensing the opinions of the most celebrated physicians at the West, says: "As to the doses in which quinine should be given, I have found much diversity of opinion and practice. On the whole, the people, and a majority of our physicians, administer one or two grain doses at short intervals, and the practice is undoubtedly, on the whole, successful. In protracted cases this mode of exhibition may be the best; but in the early stages, and when the object is (as it should be) promptly to arrest the disease, occasional larger doses are, I think, to be preferred."

In malignant intermittent fever, undoubtedly larger doses of quinine may be administered, than in simple ones. Dr. Drake relates instances where it has been administered in doses of from twenty to sixty and even eighty grains at a dose, without producing any visible dangerous effects in malignant intermittent fever. He then significantly asks, whether such doses are really necessary to arrest the paroxysm of a malignant case? He then remarks that "a majority of our physicians do not resort to such doses," and they are equally successful as those who do. He makes a very great distinction between a common intermittent and a malignant one, and says "that in very violent and dangerous cases, as the medicine *may* be administered in great doses without any empoisoning effects, it would certainly be prudent to give it liberally." There are cases in which vastly more than the usual doses of calomel, opium, and the narcotics generally, may be necessary in the treatment of individual cases of disease. Even a case is mentioned in the notes to Childe Harold's Pilgrimage, of a Turk, who by long use was enabled to take a drachm of corrosive sublimate in a day, with impunity; but these cases do not imply that these doses are proper in ordinary cases, and the same will apply to quinine in common intermittents.

Dr. Drake says: "In ordinary cases, a scruple taken in one intermission, will, I think, according to the experience of our profession, be found sufficient; and with adjuvants even half that quantity may often answer." These adjuvants are some of the preparations of opium, arsenious acid, piperine and calomel. In relation to the large doses of quinine which have been administered by army surgeons, he thinks that many soldiers are or have been intemperate, and will consequently bear larger doses than would be advisable in private practice.

Dr. Wood, in the second edition of his *Practice of Medicine*, 1849, vol. i., p. 242, is in favor of small doses of sulphate of quinine in intermittent fever. He says: "From twelve to twenty-four grains of the sulphate of quinine should be given between the paroxysms, and continued in this quantity till the disease is arrested. The effect is different in different individuals. In some cases it produces roaring in the ears, and in some partial deafness, which they experience after having taken but a small quantity. The cerebral sensations produced by it may be considered a sign of its action on the system."

In a quotidian intermittent, one or two grains every two hours will generally be sufficient; in a tertian the same dose once in four hours; and in a quartan, once in eight hours. He further says: "Some physicians are in the habit of prescribing very large quantities of the sulphate in all cases indiscriminately. From thirty to sixty, or even one hundred grains have been given during twenty-four hours. I do not remember to have found more than twenty-four grains in that period of time necessary. These enormous doses are not without risk. There is reason to believe that permanent deafness has resulted from them. One such case has come under my own observation; at least the affection was ascribed to that by the attending physician. Where there is tendency to cerebral inflammation, it would be very likely to be developed by large doses of quinine, and cases of this kind are on record. Besides, to employ the quinine so profusely in ordinary cases is to make great waste of a most valuable and costly medicine, and thus unnecessarily to enhance the price. Upon the whole, I prefer the plan of administering the medicine in small doses and often repeated, and of distributing it equally through the apynexia,—the time of sleep being as a general rule omitted. One or two grains of the sulphate may be given under ordinary circumstances every hour or two hours, until the requisite quantity has been administered."

The following note in Copland's *Dictionary of Practical Medicine*, by Dr. Lee, upon the subject of intermittent fever, vol. i., p. 1095, will show that this medicine is not to be tampered with, and that the administration of it in large doses is often attended with deleterious, and even dangerous effects. The note is long, but as the work of Copland is not in the hands of every physician, I shall doubtless be pardoned for inserting it at length.

"Within a few years the practice has been introduced of giving much larger doses of this article than practitioners were formerly in the habit of administering; but the advantages resulting from this practice are not so obvious. It is not unusual to hear of tinnitus aurium, cephalalgia, loss of vision, and other affections following its use, when given in very large quantities. Trousseau mentions the case of a man who was rendered insane by having taken twenty-four grains of quinine in one day. In another instance a man took forty-eight grains sulph. quinine for the relief of asthma. Four hours after taking the medicine he experienced noise in the ears, dullness of the senses, vertigo, and severe vomiting; and seven years afterward he was blind and deaf, his mind wandered, and he was unable to walk, the vomiting of bile still continuing. Trousseau mentions that fifteen or twenty-five grains in a day often produce deafness and other unpleasant symptoms. Bretonneau calls attention to the danger of giving quinine in large doses, remarking that it causes a distinct febrile movement, preceded by tinnitus aurium, deafness, and a species of intoxication. He also states that it causes diarrhœa, and, when applied endemically, it irritates, producing considerable local pain, and unequivocal signs of inflammation. At the Hospital La Charitie of Paris, a patient recently died from swallowing a single dose of seventy-six grains of quinine, and a smaller dose produced the same result at Cochin Hospital. The symptoms were pain in the head, then tinnitus and general agitation, followed by delirium and coma; amaurosis has also followed from taking it in large doses; and death following its use in acute rheumatism became so frequent, some time since in Paris, as to excite a public discussion. (For an account of this discussion see London Lancet for February 5, 1843). After a full discussion of the subject, the French Academy have decided that the same therapeutic effects may be obtained by the ordinary doses of the remedy as by large ones. For a case of poisoning by two drachms of quinine see the *Provincial Medical and Surgical Journal*, December 23, 1843. In the *American Journal of Medical Sciences*, April, 1844, it is stated that "M. Recamier ordered for a man, twenty-six years of age, laboring under acute rheumatism, forty-eight grains of sulph. quinine in twelve powders, to be taken every hour. The next day seventy-two grains were ordered, six to be taken every hour; but after the eighth dose the patient was suddenly seized with a violent agitation, followed by furious delirium, and died in a few hours. On examination evidences of severe inflammation of the cerebral membrane were discovered." We might cite numerous cases and authorities to prove the danger of administering this potent drug in large doses; but the above will suffice to caution the physician against adopting a mode of practice fraught with such hazardous consequences to the lives and the health of his patients. (See a paper on the "*Use and Abuse of Quinine*" in the *Boston Med. and Surg. Journal*, vol. xxxii., p. 249).

We again recur to Dr. Drake, page 746. "*The Sulphate of Quinine.* This medicine cannot be referred to the class of simple diffusive stimulants, such as capsicum or ammonia, which in large doses excite inflammation and fever; nor to that of tonics, as gentian, columba, and the carbonate of iron; for although in minute and regularly-repeated doses it will, to a certain degree, excite and sustain the action and energies of the system, these effects are by no means those which characterize it as a therapeutic agent. It has, perhaps, better claims to be admitted into the order of sudorifics, for increase of perspiration generally follows its administration, if the system and the regimen of the patient be favorable to such effect. With greater propriety, however, it may be grouped with the sedative and anti-spasmodic narcotics, but not with the soporific division, for it does not, like opium, produce sleep. When its operation in liberal doses is noticed, it will be observed to diminish the frequency and spasmodic force of the heart's contractions, expand and soften the pulse; increase the functions of the skin; and tranquillize the irritation. Its sinister effects on the brain are vertigo; on the organs of sense, *tinnitus aurium*, and temporary hardness of hearing. The last is analogous to the effect of some other narcotics, as stramonium and belladonna, on the pupil of the eye. In generalizing the phenomena which follow its exhibition in considerable portions, we may say that its action is directed more on the great sympathetic, and the muscular system of the apparatus of organic life generally, than upon the functions of animal life;—another point of distinction between it and opium."

The London *Medical Times*, as quoted by the *New York Journal of Medicine*, No. I., p. 126, in an article by John Foote, Esq., says: "The sulphate of quinine has been recently tried to a very great extent, and in enormous doses, in Paris, in the treatment of acute rheumatism and of typhoid fever. Several cases are recorded where the patients recovered; but others again have been published, from which it is clear that the unfortunate sufferers died from the poisonous effects of the over-dose of quinia,—of quininism, in fact." The *New York Journal* observes: "In France, this new method of treatment, more especially as regards rheumatism, seems to have been carried to an unwarrantable extent. In a letter from Dr. F. Campbell Stewart (now of this city) from Paris to the *Medical Examiner* of Philadelphia, it appears that Dr. Briquet, one of the physicians of the Hospital Cochin, lately published an account of eighteen cases of acute anticular rheumatism, which had been completely cured by very large doses of quinine. The practice was immediately generally adopted in Paris; but, in a short time, the zeal of those in favor of this new practice was damped by the death of five persons, evidently produced by the indigestion of these enormous doses of quinine. A case of rheumatism is mentioned where fifty-six grains were administered at a dose, increased to sixty-seven grains. By the time he had taken three and a half grammes, he was suddenly seized with extreme agitation, followed by furious delirium; and, in a few hours, death ensued. Dissection revealed the signs of general and most intense meningitis."

The sulphate of quinine, then, being a medicine of such active and prodigious power, and the administration of it in large doses being often attended with deleterious, and sometimes even with fatal effects, and the use of it being so very expensive, it is much to be hoped that an article may be found equally efficacious, less dangerous, and less expensive. And many distinguished physicians and medical botanists are now turning their attention to it with unwearied assiduity; and some think that they have discovered remedies which are more safe, equally efficacious, and more economical as to price. Many other discoveries require to be tested by longer experience, and to be more generally employed, before they will receive the sanction and general approbation of the great body of the profession. I pass over the more than thousand *absolute specifics* for intermittent fever, which have been employed in common practice, and are to be found in newspapers and *laical* journals. These may be classed with the *certain cures* for dysentery, cholera, erysipelas, burns, and various other complaints incident to the human body. If reliance were to be placed upon these and many others which might be mentioned in other complaints, the period would have arrived predicted by some, even in the profession, that death, except from accident and old age, would never occur. But unfortunately most of these boasted specifics are empirical, and not to be relied on.

On account of the incertitude of many other articles beside the quinine, Dr. Drake remarks: "And here I cannot refrain from observing that in a country of such vast extent as ours, many parts of which, from their topographical structure, must for ever remain subject to intermittent fever, it should be regarded as a duty of patriotism and humanity to test by exhibition and analysis such of our indigenous plants as in their sensible qualities bear any resemblance to the cinchona. He who should discover in our country a substitute for the bark out of which the sulphate of quinine is manufactured, would be honored as a benefactor."

I propose to look into some of our authorities for some substitutes for quinine, or at least for some which may be employed in its stead in the more ordinary cases of intermittent fever, and perhaps be efficacious in more severe ones.

This has already engaged the attention of some of the ablest men in our profession, and I trust with some success. I regret that I have it not in my power to enter more deeply into the investigation.

The medicine which next to quinine has been most extensively employed in the treatment of intermittent fever is arsenious acid, and particularly that preparation of it called Fowler's mineral solution of arseniate of potash. Many of the most distinguished physicians in this country and in Europe employ it, almost to the exclusion of quinine. My friend, Dr. Amasa Trowbridge, of Watertown, Jefferson county, New York, formerly Professor of Surgery in the Willoughby Medical University of Ohio, told me that in a very extensive practice in this complaint, he scarcely employed any other remedy, and his practice was very successful. Beginning with doses of four or five drops, it rarely becomes necessary to increase the dose beyond twelve or fourteen drops. If given much beyond this extent it sometimes produces an anematous state of the system, swelling of the extremities, affections of the stomach, and many other symptoms consequent on the poison of arsenic, which are so familiar to physicians that they need not be enumerated. It is rarely, however, carried to that extent in the treatment of this complaint. As physicians are acquainted with the toxicological effects of this medicine, they are guarded in the use of it, and consequently less danger is to be apprehended from it than from large doses of quinine.

Various preparations of the peruvian bark, such as cinchonium, quinoidine, the extract of bark, as well as the bark in substance, have been employed in the cure of intermittent fever, and, according to the testimony of many eminent physicians, with success. Indeed, the peruvian bark in substance was more generally employed than any other remedy, until within a period of twenty-five or thirty years. I have heard of no deleterious effects resulting from the use of the bark in this way, or in the other preparations of it except the quinine. Dr. George L. Upshur, surgeon to the

U. S. Marine Hospital, Norfolk, Va., has given the details of thirty cases of intermittent fever, in the *Medical Examiner* for December, 1854, in which perfect cures were effected by quinoidine alone, and there was no return of the complaint. Other physicians have also been successful with it. He uses it in doses of from two to four grains.

Quinine and Tartaric Acid in Intermittent Fever.—I find the following in the *New Jersey Medical Reporter* for July, 1854, on the use of this medicine, by Drs. Batella and Bartilli. (*Med. Chirurg. Review* and RANKING'S *Abstract.*) Two years since, M. Bartella brought forward his plan for the more economical treatment of ague by administering equal parts of sulphate of quinia and tartaric acid. He now (*Bull. de Therapeutique*) reinforces his former statements by new facts, having treated altogether 208 cases in this way, 196 of these being simple intermittents, and twelve pernicious fevers. Dr. Bartilli, who has been pursuing the same experiments, states as his conclusions (*Gazette de Hop.*, No. 87): 1. That sulphate of quinia given with equal parts of tartaric acid is more active than the simple sulphate. 2. As a general rule, half the quantity of quinia so combined suffices; but in some descriptions of fever, as in the pernicious ones of Italy, larger doses are required.

Many of the alkaloids of some of our indigenous medical tonics are much thought of by several eminent physicians, such as those produced from the various species of cornus, or dogwood, particularly of cornus floridæ and sericea, under the name of corneine; of the willows, under the name of salacine, etc. etc. Decoctions and powders of the various species of quercus, or oaks, eupatorium peroliatum, sabattia angularis, the various species of snake-root, chamomile, pinckneya pubens, aconitum napellus, alnus serrulata, capsicum, liridendron tulipifera, the various species of prunus, lupuline, and various others, too numerous to recapitulate.

The *hydrocyanite of iron*, or prussiate of iron, has been highly extolled by that excellent practitioner and learned physician, Dr. Samuel Jackson (of Northumberland,) Philadelphia, in the second volume of the *American Journal of Medical Science* for 1825. He does not consider it superior to the various preparations of the bark, if equal to it, in all cases. But he says, "This medicine appears to have five advantages over bark. 1. It can be given when inflammation is present, without sensibly aggravating it. 2. It is less likely to do harm when taken without medical advice. 3. It may be given in the advanced stage of remittent fevers, when we are yet doubtful of the propriety of the bark. 4. It may be useful in persons whose idiosyncrasies would seem to rebel against bark. 5. It is a much less expensive remedy." I refer the reader to this most interesting paper of Dr. Jackson.

Dr. Bertozzi, of Cremona, has proposed to substitute the hydrocyanoferrate of quinine, for quinine in fever, the powers of which, under the worst forms of intermittent fever, have been completely established." *(Dub. Jour. Am. Med. Jour.)*

G. Geniole, M. D., in the *Archives Generale*, Dec. 1832, and *Annali Univ.*, 1832, highly recommends the ferrocyanite of quinine in intermittent fevers, in doses of from one to two grains, and thinks it may be a useful substitute for quinine. *(Am. Med. Jour.*, No. 24.) Dr. Gouzer, of Antwerp, has cured three cases of intermittents by this remedy, in doses of a single grain, half an hour before the paroxysm; and Professor Berandi has recommended the citrate of quinine in intermittent fever, in doses of one third of the quantity of sulphate of quinine, and says it agrees better with the stomach, and causes less congestion of the brain. Dr. Spielman, in the *Jour. Des. Conn. Med.*, Febr. 1836, "asserts that the muriate of quinine is a more speedy and effectual remedy in intermittents than the sulphate. It is more soluble than the latter. The dose is from half a grain to a grain." *(Am. Med. Jour.)*

The chloride of sodium is highly extolled as an anti-periodic and remedy in intermittent fever, in the *New Jersey Medical Reporter*, by Dr. Edward D. G. Smith. This remedy was first suggested by Dr. Piorry, of Paris, who administered it successfully in doses of two table-spoonsful, once or twice a day. He says this dose as promptly arrests the paroxysms as quinine. The observations of Professor Herrick, of Rush Medical College, corroborate the statements of Dr. Piorry, and he has been quite as successful in the use of it. He gives it in doses of three or four drachms twice every day in mucilage. Dr. Smith thinks that there is less tendency to the return of the disease at the expiration of a week, when cured by the chloride, than when quinine or arsenic is used, and he further says: "My friends, Drs. Eyrich, and L. G. Thomas, who have both given it successfully in many cases, are of the same opinion." As some patients would object to the common salt, Dr. Smith disguises it by rubbing it up with red saunder and a few drops of the oil of anise. Dr. Dugas, of Paris, highly recommends this medicine in intermittent fevers. J. S. Wilson, M. D., of Alabama, according to a statement in the *Southern Medical and Surgical Journal*, has employed this remedy and been successful with it, in a case which had resisted quinine and Fowler's solution.*

Dr. S. S. Purple, one of the editors of the *New York Journal of Medicine*, has published an elaborate and most able article in the September No. of that Journal for 1854, upon the *simaba-cedron*, as a substitute for quinine, and has given a beautiful engraving of the leaf, flower, and cotyledons of that tree, which is found growing in "New Grenada. Banks (near San-Pablo) of the Magdalena, *W. Purdie*, Isle de Caybo, coast of the Pacific, *Thomas Seemann*." A friend of Dr. Purple from Kingston, Jamaica, sent him a package in 1853, containing a pound of these cotyledons. He employed the powder of these cotyledons in five cases of intermittent fever, in doses of from ten to twenty grains, with success, and in 1854 he treated six other cases exclusively with cedron, with the following results: "Four with cure, prompt and permanent; one passed from my observation before the result was known, and the other is still under observation, having resisted emetics, quinine and beberine previous to consulting me. From these results, and those obtained in neuralgic cases, which we think are unnecessary to detail, there can hardly arise a doubt but that the cotyledons of the simaba-cedron possess decided anti-periodic properties. And in this belief we do not stand alone. Dr. Cespèdes, of Bogota, M. Herran, of France, Dr. P. Smith, of San Francisco, Cal., and Dr. Magrath, of Jamaica, W. I., have each testified to its decided medicinal virtues in this respect."

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* See also an able article by DR. J. C. HUTCHISON, on Common Salt in Intermittent Fever, *New York Jour. Med.*, March, 1854.

The following, according to Dr. Purple, are among some of the conclusions drawn from the medicinal use of the simaba-cedron:—"That it possesses anti-periodic properties, and is therefore applicable in the treatment of periodic diseases—that it is less likely than quinine to produce the aggregate of encephalic and neuropathic phenomena induced by over doses—that as a remedy in intermittent fever it possesses properties, in many respects, equal to quinine, and is equally adapted to the curation of this disease—that it possesses marked tonic properties, and deserves a prominent place in the classification of the Materia Medica—that, should a demand arise for its use in medicine, it is believed it will be found not difficult to obtain a supply in quantity sufficient to afford it at a much less price than quinine. This, surely, is a desideratum."

I have thus given some authorities for the assertion that large doses of quinine have sometimes been attended with deleterious and even fatal effects, and mentioned several substitutes which have been employed by many of the most eminent men in the profession, successfully, in intermittent fever. This investigation might be carried to a much greater extent; but I leave it to abler hands. I hope it will stimulate others to prosecute the inquiry, and that the results of their observations will be the discovery of other remedies, equally efficacious, less dangerous, and less expensive than the sulphate of quinine, as now often administered. The subject is surely worthy of the most attentive consideration.

ART. VI.—*On the Use of Thuya Occidentalis, (Arbor Vitæ,) in the Treatment of Cancer.*—By J. R. LEAMING, M. D., Physician to the Northern Dispensary, N. Y.

ABOUT the first of July, 1854, my attention was called to a little girl, not quite three years old, who had received a slight injury of the hand, as was supposed, from a fall. I directed the application of cold water, and the swelling and the soreness disappeared. On the 12th of September I was called to see the child, and found a purple tumor, not distinctly defined, occupying and complicating the flexor muscles of the thumb. The veins leading to the tumor were enlarged and tortuous. The tumor itself was not tender, and the bone was not implicated. It had the peculiar elastic feel of erectile tumor. I learned that it commenced growing about two weeks previously. I informed the parents of my fears respecting the malignant nature of the disease, and requested a consultation. Accordingly the next day Dr. W. H. Van Buren saw the case with me, and confirmed my diagnosis. On the 20th of September, Dr. Van Buren met me again, and explored the tumor with a grooved needle. A glutinous matter was obtained, indicating that the disease was of the colloid variety. The treatment directed was small doses of hydrarg. bichlor in tr. cinchon. co., the hand to be painted every day with tr. iodine and poulticed.

The disease rapidly increased, attacking the carpal and meta-carpal bones, the back of the hand became thickened and hard, and the veins large and tortuous. An abscess formed where the exploration was made and discharged healthy pus. Still the tumor increased in size.

Being informed by a medical friend of the successful employment of thuya occidentalis in a case of rapidly-developed fungus-hæmatodes of the eye—the tumor gradually subsiding under its use, and returning on its intermission, but finally completely disappearing on persisting in the employment of the remedy,—I determined to resort to it in this case. It was of course a forlorn hope; but the character of the disease warranted any course of treatment which offered a shadow of success. The child was accordingly put upon the use of a tincture of the leaves of this tree. In two weeks the appearance of the hand was changed; the tumor had not increased in size. In two weeks more, the disease was evidently subsiding, the tumor was smaller, the back of the hand was not so thick and hard, and the veins were not so large.

On the 29th of October, the father of the child was attacked with severe inflammatory rheumatism of the right knee-joint. The disease resisted the treatment, only partial relief being obtained from hydrarg. mass and ext. conii, tr. colchic., sem. potass., iodid., potass nitrat., etc., till the 10th of November, when the pain was relieved. At four o'clock, on the morning of the 11th, I was called to see the patient, and found that he had vomited half-a-pint of blood; soon after I arrived, he vomited more, making in all about a quart of moderately fresh looking blood. I gave him fifteen drops of spts. terebinth, and sent a messenger for Dr. Geo. P. Cammann to meet me in consultation. Dr. C. soon arrived, and carefully examined the patient. We agreed upon the following diagnosis; that there was an old trouble of the liver, most probably cirrhosis, and that the hemorrhage was from the portal circulation induced by this biliary trouble.

For a few days the patient took nothing but mulled wine and beef-tea. Altered blood passed from the bowels twenty-four hours. Forty-eight hours after the first hemorrhage he vomited a small quantity of blood, and passed altered blood for thirty-six hours afterward. The bowels were tympanitic, pulse one hundred and ten, skin moist, tongue furred. The patient presented a yellowish, waxy appearance. He was directed to take hydrarg. sub. mur. one grain, and ext. taraxici twenty grains, every day or every other day, for the purpose of bringing the system gradually under the influence of the mercurial. Healthy bile was obtained in the evacuations, but there was no improvement in the patient's health. At this time, reflecting upon the case, I came to the conclusion that there was malignant disease connected with the liver. My reasons were, the appearance of the patient, the history of the case, and the history of the patient's family. His mother died when he was a child. Three years before her death a purple tumor appeared on her hand. It resisted treatment, and the hand was amputated. Six months before her death she vomited blood, and died of some internal disease. His mother's brother died of cancer of the lip. His sister vomited blood and died of some internal disease. His little daughter is under treatment for cancer of the hand.

At my next meeting with Dr. Cammann, I stated my earnest convictions respecting the malignant nature of the disease connected with the liver. Dr. Cammann believed the disease was of long standing and of a very serious nature, but that we needed further evidence to warrant us in making up a certain diagnosis.

On the 30th of November, Dr. Valentine Mott saw the patient with me in consultation. The patient at this time was very tympanitic; there was also a small quantity of fluid in the peritoneal cavity. The heart was pushed up from its normal position, so that the impulse was felt above the nipple. He was weak, tongue furred, pulse one hundred and ten, skin moist, and urine scanty.

After examining the patient and hearing the history of the case and of the family from me, Dr. Mott's diagnosis was cirrhosis of the liver with a suspicion of malignant disease. I commenced giving the thuya in tinct. made in the following manner: The leaves and small twigs were crowded into a jar and then covered with alcohol; half a teaspoonful every three hours. The rheumatism had entirely subsided after the hemorrhage; still there was no improvement in the patient's health.

On the 6th of December, Dr. Willard Parker saw the patient in consultation with me. After a careful personal examination, and hearing the history of the case and of the family from me, his diagnosis was cirrhosis of the liver and suspicion of cancerous disease.

The patient seemed to be rapidly sinking. I increased the dose of the thuya to two teaspoonfuls every three hours, and gave in addition a mixture composed of hydrochlorate of ammonia and chlorate of potass., each ʒi., and cinnamon water ℥vi., a tablespoonful every hour or two. He seemed to improve almost immediately, his appetite became good, and he gained strength rapidly. A week after Dr. Parker saw him he was able to walk into an adjoining room and sit there most of the day. The 12th of December, I found a small tumor in the left side on a line with the heart, just under the ribs. In giving it an impulse it would leave the hand and return to it, giving the sensation of the fœtus in ballotment. The tumor grew rapidly, and I could notice an increase in size at each examination.

On the 18th of December, Dr. Cammann made a careful examination of the tumor. It rested upon the kidneys, and evidently was the cause of the displacement of the heart. It extended over toward the right side beyond the median line and downward almost to the umbilicus.

There was more urine secreted than there had been; still the dropsy gradually increased. A great variety of active diuretics had been used without any beneficial effect; indeed they all seemed to do harm, consequently he was confined to the thuya and mixture of hydrochlorate of ammonia and chlorate of potash.

On the 4th of January, the dropsy having increased so much, it was decided to relieve the patient by tapping. On the 6th of January, at the patient's request, Dr. W. H. Van Buren was called and drew off thirteen quarts of amber-colored fluid highly charged with albumen. In a week he was able to walk about and ride out, driving an open carriage several miles into the country with enjoyment and benefit. With the exception of the physical inconvenience of the tumor lying on the kidneys and the portal veins, the patient seemed to enjoy better health than he had done for some years.

The dropsy rapidly returned, and tapping was necessary again in two weeks. Dr. Van Buren performed this operation five times at intervals of two weeks. After the fifth tapping extensive peritoneal inflammation set in, and the patient died on the 5th of March.

A post-mortem examination was not allowed. This is much to be regretted, as it would have settled some points of interest—the malignancy of the tumor, its connection with the left lobe of the liver, and whether the extensive peritoneal inflammation was caused by the escape of matter from the tumor into the peritoneal cavity. Of the first two points there can be scarcely any doubt; still it would have been a satisfaction to have had the question settled beyond all cavil. The third point is quite probable from the sudden onset of the peritonitis.

The most important fact in the history of this case is the decided benefit received from the use of the thuya and the mixture of hydrochlorate of ammonia and chlorate of potash. Immediately after commencing the use of these remedies the stomach and liver resumed their natural functions, and the symptoms of cirrhosis disappeared. The action of the kidneys was also much improved.

During the early part of the father's severe illness, the child was neglected and the thuya discontinued. The hand became worse, and the disease again attacked the carpal bones. When the thuya was prepared for the father, the child again commenced its use, taking fifteen drops every two or three hours. In a short time its benefit was quite perceptible. At the present time only a trace of the disease remains, and the remedy will be persisted in till the child is well. The hand will remain permanently injured and probably will be atrophied.

Thuya occidentalis, or arbor vitæ, belongs to the pine tribe (coniferæ), is a native of this country, and is cultivated in our gardens. The leaves are the parts used medicinally. They are described in the *U. S. Dispensatory* as having an "agreeable balsamic odor, especially when rubbed, and a strong, balsamic, camphorous, bitter taste."

The thuya has long been used for medicinal purposes, but with no settled opinions in regard to its therapeutic properties. It has thus been employed in intermittent fever, scurvy, rheumatism, and as a stimulant, diuretic, diaphoretic, and vermifuge. In the *Revue de Therapeut.* (Jan. 1st, 1855), there is a notice of the thuya having been recently employed by a Hungarian physician in the treatment of venereal excrescences which had resisted mercury, cauterization, and excision. He employed the tincture, using three pints of the leaves to six of rectified alcohol, applying it from time to time with a brush. The excrescences rapidly diminished in volume, and a radical cure is reported to have been obtained in five days.

Thuya occidentalis is a new remedy for cancer. There have been a great many new remedies for this dreadful disease before, which upon trial have proved utterly valueless; so it may be with this. Two or three recoveries do not prove the value of a remedy. These cases are related that it may receive a more extensive trial; and if others should find it in a large proportion of cases as beneficial as it has been in the cases I have related, it is one of the greatest boons conferred upon mankind.

ART. VII.—*Statistical Observations on Wounds of the Heart, and on their Relations to Forensic Medicine, with a table of forty-two recorded Cases.* By SAMUEL S. PURPLE, M. D.

THERE is probably no opinion relating to medicine, more deeply rooted in the public and perhaps professional mind, than that which regards all wounds of the heart necessarily, and in most cases immediately fatal. In order to ascertain how far this opinion is or is not founded on fact, we have taken no small degree of pains to collect and arrange in the following tables a large number of authenticated instances of this class of injuries. In most of the recorded cases of this accident, death, though not immediately occurring, has sooner or later followed the injury. To what cause or combination of causes the delay of the fatal result in a large majority of these cases may be attributed, is a question of deep interest to the physician and medical jurist. That punctured, incised, and even gun-shot wounds of the heart are not necessarily mortal, is fairly demonstrated in the collection of facts here presented; for in more than one case the recipient of such wounds has lived for months, and in two, even years after such injuries, and finally died of some other disease. Vide cases 1, 2, 11 and 34.

The ability of the heart to perform its functions, in many cases after the receipt of severe wounds complicated with the presence of foreign bodies in the organ, is truly surprising. In Cases 1, 10, 29, 30, of our collection, the facts bearing upon this point are almost astounding in their character. In the case of Dr. Randal, (Case 1,) three shots were driven through and found lying loose in the cavity of the right ventricle, and two in the cavity of the right auricle; the wounds caused thereby having completely cicatrized; the boy lived sixty-seven days, and apparently died of the results of inflammation of the lungs. In Case 10, a portion "as large as a full-sized writing quill" of the stock of the gun that had burst, was found fixed in the middle third of the left ventricle, where it had remained forty-seven days. Erysipelas of the leg occurring on the forty-second day, resulted in death five days after its supervention. The case of Dr. Constantin (Case 29) is in many particulars equally remarkable. The patient in a fit of insanity cut and stabbed himself in a horrible manner over the face and chest, particularly the left side. Amongst the wounds inflicted were two particularly conspicuous on account of their large size; one, seven or eight inches in length, was placed between the fourth and fifth ribs of the right side about three inches from their sternal articulation. The other, fourteen lines in size, occupied the space between the xyphoid cartilage and the costal cartilages on the left side; at first syncope ensued, but this lasted for a short time only. After the wounds had been attentively examined they were dressed by adhesive plaster, etc., and the patient was placed in bed and strict tranquillity of mind and body enjoined. The pulse was found now to be regular; there was no cough, and the respiration was free. The following night was passed calmly; the respiration, however, was a little impeded; the pulse was still regular and there was no cough. The following day there was but little change in the patient's condition, except, perhaps, augmented thirst. The third day the pulse retained its regularity, but in the evening the patient complained, at intervals, of sharp pain in the right hypochondrium, frequent cough and increased thirst. Twelve leeches applied to the right side the morning of the fourth day; the pain still remaining, gradually extended itself over the whole hepatic region, the pulse wiry and small, and embarrassment of respiration increased; six leeches to the side. The difficulty of respiration increased rapidly, insensibility came on, and at 5 o'clock, P. M., the patient expired four days after injury. On dissection, it was perceived with extraordinary surprise, that the heart was traversed from side to side by a paper scraper of ebony, having a straight handle; the right ventricle and auricle were both wounded. It is difficult to conceive how the wounding instrument could be lodged so completely in the posterior part of the heart. The following is Dr. Constantin's explanation, which renders this circumstance intelligible: "It is necessary," says he, "to suppose that the weapon was plunged into the chest at the moment that the heart's point was elevated, and that the patient employed a tile, which was found near him, covered with blood, to drive the instrument thus deeply into the viscus."

While engaged in the collection of these materials, numerous cases were found where foreign bodies had been lodged in the heart for a long time, without any wound of this viscus; two of these cases have been considered of sufficient interest to deserve a place in these tables. They have accordingly been appended to them. In Case 42, a soldier received a gun-shot wound near the left axilla, from which he died ten weeks after. On dissection the ball was found in the cavity of the left ventricle, and firmly bound down by the cordæ tendineæ and columnæ carnæ. No cicatrix on the heart could be found, and the presumption was that the ball must have perforated the pulmonary vein, and thus passed into the left auricle, and ultimately into the ventricle. But Case 41 is still more remarkable, for in this case a stick three and one half inches long, and one half inch in diameter, was found in the cavity of the right ventricle; the patient lived thirty-seven days. In what manner this foreign body found its way into this cavity it is difficult to say.

In the present compilation we have included no cases of the smaller variety of punctured wounds of the heart. However innocuous these may appear to be from the numerous experiments of acupuncturation performed by Russian surgeons, a dangerous result is quite certain to follow if the instrument which produced the wound is allowed to remain impacted in the organ. A case illustrating this point is reported by Dr. Graves.* A man, for the purpose of self-destruction, cut his throat, previous to which, however, he pushed a large "darning needle" between the fifth and sixth ribs, and directly over the heart. The person having confessed the fact, and Dr. Graves having observed a puncture at the point indicated, an incision was made down to the pleura, and afterward through it, when the needle was seen fixed in the heart. When removed by the forceps, a forcible stream of blood followed. The patient lived eight days after its removal, dying with well-marked pleurisy. On dissection the left ventricle was found to have been perforated by the needle, and in the muscular wall of this ventricle a small cyst containing pus. A somewhat similar case is reported by Dr. O'Connor,† in which suicide was attempted by introducing a needle 3½ inches in length between the fifth and sixth ribs, over the region of the heart; by incision and the use of a watchmaker's pliers, its removal was effected, and the patient recovered, not, however, without the most prompt and efficient antiphlogistic treatment. He lived upward of ten years. The case observed by M.

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* *The Annalist.* Vol. 2, p. 50, New York, 1847–8.

† *Medical Gazette,* (London). Vol. 17, p. 82.

Trelat* is also worthy of notice here; a young woman in a fit of despondency plunged a needle into the region of the heart, between the sixth and seventh ribs. She immediately declared that she was about to die. On examination the presence of the foreign body could not be detected; and there was complete absence of any heart disorder. On the third day she complained "that a large needle was allowed to remain in her heart." An incision was now made at the point indicated, and where there was a puncture, and its removal was effected by a pair of dissecting forceps. The needle, which was two inches in length, presented a somewhat corroded appearance, and had been plunged perpendicularly into the heart. The patient recovered.

A curious circumstance attendant upon gun-shot wounds of the heart is that in which the ball causing the wound has penetrated the walls of the chest, and produces a perforation in one or both ventricles, but there is no corresponding wound in the pericardium. A case of this character is reported by Professor Holmes,† of Montreal. The patient, a young man, lived but a short time after the receipt of the injury. On dissection, the anterior wall of the right ventricle contained a transverse linear opening, sufficiently large to admit the finger. Corresponding to this opening in the heart was observed a bloody echymosed condition of the cellular substance lying on the pericardium, which led to the inference that the pericardium had been driven before the ball and into the heart while this organ was in the act of contraction, its fibers being hard and rigid from their muscular contraction. The ball was found loose in the cavity of the pleura. Morgagni‡ mentions a case as quoted from Boirellus, where a man died four hours after a gun-shot wound in the breast. On inspection after death, the pericardium was found entire, but distended with blood, and a wound completely through the right ventricle. The bullet was found in the cavity of the pleura. He supposes that the ventricle was in a state of dilatation at the instant the percussion occurred.

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* *Southern Medical and Surgical Journal* (N. S.), vol. ii., p. 250, from *Bulletin Generale de Therapeutique.*

† *British Amer. Jour. of Med. and Phys. Sci.*, vol. i., p. 227. Montreal, 1845–6

‡ *Seats and Causes of Disease.* By MORGAGNI, translated by ALEXANDER. London, 1769, vol. iii., p. 193.

We have said that the cause of delay in the fatal termination of wounds of the heart is a question of deep interest to the physician and medical jurist, for upon this point, in a great measure, rests not only the question of their curability, but also their forensic relations. What the circumstances are which tend to increase their fatality are worthy of careful consideration. That variations in character, size, situation, and complications influence such a result is certain. But these particulars do not combine all that enters into the circumstances of their curability; the state of the patient's health before he receives the injury, and the treatment pursued in the subsequent management of the case, have an important bearing upon the result. Perhaps we need no better explanation of the force of this remark, than the numerous facts furnished by wounds of the chest in general, and those of the lungs in particular. In military practice these wounds, although conceded to be in a high degree dangerous, are by no means regarded as necessarily fatal. Repeated instances are furnished by almost every surgeon in active service, of entire recovery from such wounds—not however generally without the most active treatment. It is upon this latter point in some of the cases here reported, in the opinion of the reporters themselves, that the want of success depended. Let us therefore proceed to the answer of the question, to what cause can we attribute the great difference in the duration in life in the cases here collated? This question we have no doubt has already arisen in the mind of every reader. A satisfactory answer to it would, we believe, throw much light upon the all-important question of the curability of heart wounds. In Case 19, where death occurred immediately on the receipt of the wound, it is clearly manifest that it was due to the extensive character of the wound, the number of parts injured, and the immediate distention of the pericardium with blood to complete fullness.

In Cases 13, 14, 15, 22, and 26, it would appear to have been due to the formation of a coagulum in the wound serving as a plug; while in Cases 11 and 17, it is almost certain that it was due to union by first intention, and death, that followed, was the direct result of inflammatory complications. The character and direction of the wound may also contribute to the delay; for if the wound be an incised one, and its long diameter is parallel with the external fibers of the heart, the formation of a clot will be more certain. The want of parallelism in the fibers of the heart evidently favors the formation of clot. This view is especially insisted upon by M. Dupuytren, whose writings have more fully made known the possibility of the curability of small penetrating or punctured wounds of the heart.

By some, instant death is attributed to the sudden loss of blood exhausting the heart; by others, as in Cases 8, 17, 19, 23, 25, and 38, to the compression this organ undergoes from the accumulation of blood in the pericardium—suspending at once the heart's functions. In those cases where the hemorrhage is profuse, the result must be in part due to such causes. This explanation is still further supported by the facts furnished in cases of sudden rupture of the heart; here death in most cases is immediate. But these alone do not afford an explanation of the cause of sudden death in all cases. The study of these cases has led us to believe that the concussion or shock of the organ has more to do with sudden death, than any other one cause. A careful examination of all cases of injury of the heart, shows that the primary symptoms are combined in the presence of shock; the suspension of the movements of the organ, the cold clammy sweat, the death-like pallor, syncope, and the suspension of consciousness, all spring directly from the shock, and are present in a large majority of gun-shot, incised, and the larger punctured wounds. In those cases in which the patient survives the shock, and reaction supervenes, death occurs from other causes. Here it is due mainly to the occurrence of inflammation, in some one or other of its forms, consequent upon the injury done to the pericardium or lungs. In Cases 1, 4, 9, 18, 26, 39, etc., this was most clearly the case.

Symptoms—If we except those punctured wounds caused by needles and the like kind of instruments, the symptoms which arise from gun-shot, incised, and the larger punctured wounds of the heart, vary but little in character. On the receipt of injury we have generally hemorrhage, weakness, syncope, great paleness, great anxiety and oppression, cold sweat, vomiting, with sooner or later, not unfrequently, complete collapse. The breathing is short and gasping, the pulse feeble and intermittent, the heart's action scarcely, if at all, perceptible. In the course of from one to eight hours, signs of reaction set in; not unfrequently after vomiting the dyspnœa and cardiac oppression is in a measure relieved; then palpitations not unfrequently arise with a peculiar trembling of the organ, with irregular pulse. The diagnosis of wounds of the heart is decidedly illusive. M. Jobert* (de Lamballe) is of the opinion, however, that he has discovered a pathognomonic sign. The following are his conclusions in regard to their diagnosis: 1st. That penetrating wounds of the heart give rise to a peculiar sound, resembling aneurismal varix. 2d. That they are accompanied with a constant convulsive affection of the muscular fibers of the heart. 3d. That the sound indicated above ceases as soon as a clot closes the orifice of the wound. 4th. That the muscular disorder of the heart continues after the formation of the clot. Cases 30, 31, 32, 33, are the only cases in our collection in which the sound resembling varicose aneurism, mentioned in the first conclusion, was noted. The character of the hemorrhage, when occurring externally, may prove of considerable assistance in forming a correct diagnosis; and this will prove particularly so if it issues per saltum, or in interrupted jets, and is isochronous with the beats of the heart. Our researches convince us that the most clear diagnosis which we can arrive at from the collation of the symptoms in this collection can be at best but presumptive.

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* *Archives General de Medicine,* Sept., 1839.

We have said that the diagnosis of these wounds is uncertain. For the elucidation of this subject we have instituted a rigid search into the reported symptoms of every case here collated, but have failed to discover any rational symptom, or combination of symptoms, which will render certain their diagnosis. It is this fact that has led to the exclusion from the table of all cases of reported recovery where the rational symptoms alone were relied upon by the reporters for the belief that such a wound had occurred. In so doing there is a probable reason that we have excluded cases of actual recovery from the collection. The case of Dr. Lavender* may be such a case. A student, aged 19, in good health, was stabbed by a knife, the blade of which, three inches in length, and three fourths of an inch in width, entered the left side, between the fourth and fifth ribs, at the cartilaginous extremity. In five minutes after the injury Dr. L. found him vomiting, " with jaws rather rigid, cold sweat on his face, eyes drawn back, respiration irregular, interrupted, and terminating in deep sighs ; action of heart entirely suspended ; from the wound was flowing venous blood in a continuous stream ; not less than a gallon of blood was lost." The patient was placed upon his back, and towels dipped in cold water were dashed over his chest, camphor sprinkled in his face, and free ventilation obtained. The flow of blood stopped instantly ; the breathing, however, continued oppressed, interrupted, and somewhat stertorous. Five minutes after a slight flutter was felt in the heart, and by the palm of the hand, for a minute or more at irregular intervals, when pulsation became perceptible. Four hours after reaction began to appear ; he was exceedingly restless, and complained of intense suffering ; pulse 120, and intermitting; respiration interrupted. For the next three hours, from 12 to 3, A. M., but little hope was entertained of his living till daylight; his restlessness, however, was relieved by the use of full doses of morphine. The subsequent progress for thirty days is carefully reported; the treatment, suffice it to say, was, throughout, antiphlogistic, mild mercurials, etc.; while absolute rest, in the horizontal position, was maintained for sixteen days, during which time the patient's urine was removed by means of the catheter. The patient's diet was principally water-gruel and strawberries. One month after the receipt of the injury he was able to be removed to his home; but for about two weeks there existed a distinct bellows sound in the heart, whose swell was not synchronous with arterial pulsation. This sound grew less and less distinct until it was entirely lost. Dr. Lavender believes that the right ventricle of the heart was opened, and as such reports the case. In his comments upon Dr. Trugien's case (Case 17 of our collection), he expresses the opinion that the liberal diet and improper exercise of the patient was the cause of the fatal termination. "Had this patient (says he) been confined on his back, and restricted to water-gruel for twenty days, he possibly might have lived."

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* *Proceedings of the Medical Association of the State of Alabama for* 1850. Mobile, Ala., 1851. 8vo., p. 104.

Treatment.—The general principles which guide the surgeon in the treatment of wounds of the chest, apply with equal force to all wounds of the heart. Too much stress must not be laid on the apparent necessity which exists to arrest syncope, and prevent the tendency to collapse, by a free resort to stimulants. The cases before us show conclusively that there is less danger of collapse, and more of reaction and the consecutive fever. As the chances of success are much increased by the formation of a clot in the wound, immediate steps should be taken to close the external wound by adhesive plaster and appropriate bandages, and these should only be removed in case there is reason to believe that the dyspnœa and sense of suffocation are greatly increased by restraining the external hemorrhage. In the case of the Duke de Berry this course (the removal of the dresses to allow of the exit of the accumulated blood) was pursued by M. Dupuytren, and Steifesand attributes to it the quicker or more immediately fatal termination of the case.

When reaction becomes established, the great indication is to control its severity, which may be done by bleeding and strict antiphlogistic treatment. But this can only diminish the quantity of the blood, and, in a measure, moderate the action of the heart. To diminish the heart's action is an important point in the treatment; and, while we enjoin perfect rest on the part of the patient, the fact that we possess in the veratrum viride a powerful and reliable agent for controlling the heart's action, should not be lost sight of. That the severe reaction which frequently follows this class of injuries may be judiciously controlled by this remedy we have every reason, *a priori*, to believe. In the administration of it, however, owing to its nauseating and powerful depressing effects, caution should be used and its effects carefully watched. A moderate mercurialization of the system should also be instituted as a safeguard to the inflammatory complications which frequently arise, and which, when established, increase in a tenfold degree the mortality of these wounds.

Rest, absolute rest, is an important and powerful auxiliary in the treatment of this class of wounds. In a medico-legal point of view, to say nothing of the ethico-morale of the act, it will not do for the surgeon to become deceived by the temporary calm which very frequently follows the first reaction. The least effort on the part of the patient may be followed by fatal syncope. Cases 17, 18, 35 and 36 are forcible illustrations of the truth of this remark. In the first of these cases (Case 17), on the fifth day the patient was allowed to walk about; and on the following day, while in the act of doing so, sudden and fatal syncope intervened. In the last case (36), the patient was allowed to resume his attendance at school, and, " three weeks and four days from the accident, he was taken with a sudden and fatal syncope"; while in the second and third cases (20 and 34), the patients both expired in the act of defecation.

The supervention of carditis, pericarditis, or other inflammatory complications of wounds of the heart, must be watched for, and, if possible, anticipated by appropriate treatment. In gun-shot and severe punctured wounds, such as we have here collated, the inflammatory complications frequently arise; and so insidious are they in their progress that the surgeon is, to say the least, occasionally thrown off his guard, until the citadel of life becomes nearly or quite taken. When the collapse and nervous depression which succeeds this class of wounds passes off, not unfrequently symptoms of pericarditis supervenes. In some cases the symptoms may not become fully manifest until the second day, as in Case 4, or the ninth day, as in Case 9. But whether they arise sooner or later, they should, if possible, be anticipated, and the surgeon will do well to institute daily examinations, in order that he may detect the first beginning of the disease. The physical signs by which we may detect the early rise of this affection are friction sounds with special precordial dullness, and twisting upward of the apex of the heart. The friction sound, when fully developed, may be considered pathognomonic. In a case of traumatic pericarditis supervening on a gun-shot wound, Dr. Stokes discovered a peculiar friction sound, which can be best described by stating that it consisted in the existence of many distinct points of intense friction sound, each of which, though extremely circumscribed, conveyed the impression of a resisting or cartilaginous deposit. These signs continued for several days, during which the friction phenomena subsided at certain points and appeared at others. There was no constitutional suffering, and but little, if any, local distress. The patient recovered.* The treatment best calculated to ward off the danger of pericardial inflammation, there is no doubt consists in judicious blood-letting, followed, or perhaps best preceded, by well-directed efforts toward a speedy mercurialization of the system. In the event of effusion following pericarditis, blisters must be resorted to, and mild mercurials must be continued. Should medical treatment prove of no avail in removing the fluid, and especially should threatened suffocation exist, surgical treatment must be called in, and the operation of tapping the pericardium performed. This course, suggested by Senac and practiced by Delault, and more recently by Schuh, will be found advisable. In two cases given by Dr. Kainwagen, immediate relief followed the operation, and in one a permanent cure; in this case three and a half pints of fluid were drawn off.

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* *The Diseases of the Heart and Aorta.* By William Stokes, M. D. Dublin, 1854. p. 81.

Prognosis.—In regard to the prognosis of wounds of the heart, we may safely conclude, with Mr. Baird, that from the cases here reported and similar recorded facts, in a general manner, that *wounds of the heart, although always dangerous, are not all necessarily mortal; that in some cases, hopes of recovery may be entertained—the more so if the wound has not penetrated deeply, or if the symptoms of consecutive inflammation are of a moderate character.*

Forensic Relations.—The legal relations of the practitioner in the management of wounds of the heart are important, more so perhaps than in most other wounds, from the fact of the professional as well as popular belief in their necessary and general immediate fatality. The fact of the existence of indubitable instances of recovery from such wounds, imposes upon the surgeon, however, a severe responsibility; while the possibility that the patient may die as a consequence of inflammation, uncontrolled, and perhaps unsuspected, tends to augment it still more. In order to avert such responsibility, the treatment of wounds of the heart must be judicious. In other words, there must be no improper, neither want of proper, treatment. For if the treatment instituted be faulty—if the wound in the heart be cicatrized as in Case 34—and the patient die of the consequences of another difficulty improperly treated, an issue may be set up extremely unfavorable to the professional character of the surgeon. In a case cited by Dr. Neurohr,* we have the point of improper treatment strongly illustrated. A man received a wound one inch long and three lines broad, which went through the parieties of the chest, to the left of the sternum, through the cartilaginous portion of the fourth ribs, the pleura, a part of the left lung, the pericardium, and inflicted a wound in the right ventricle one inch long and a line in depth: the patient lived ten days. During his sickness he had difficult and anxious breathing, pain, stitches in the breast, small frequent pulse, strong fever, and great restlessness. The treatment throughout was faulty; no bleeding or antiphlogistic remedies, but on the contrary, instead of these, in three days from receiving the wound, nourishing diet, bark internally, cataplasms of wine and aromatic herbs were resorted to. The patient, as before stated, died on the tenth day, experiencing great restlessness, quiet delirium, great dyspnœa, intermitting pulse. The patient died of paralysis of the lungs and heart, from effusion into the pericardium. The wound of the heart was held to be not necessarily fatal, and the treatment vicious and faulty.

The following case contrasts strongly with the foregoing. A soldier wounded himself with a knife in the left side, at the union of the fifth and sixth ribs with their cartilages. On examination after dilatation of the wound, the lung and pericardium were found to be wounded, and there existed a superficial wound of the apex of the heart six lines long. It could be perceived, by the finger, how by the systolic action the heart lengthened, and touched with its somewhat outward bowed apex the sixth rib, and by the distole it shortened itself. The motions of the heart appeared to resemble the screw-like movements of a spiral spring. While the heart contracted itself, the arteries dilated themselves; for when the point of the heart touched the finger the radialis dilated itself. When after four or five beats the pulse intermitted, so was the systole of the heart labored and trembling. The treatment instituted in this case was free bleeding, rest, and a strictly antiphlogistic course. The patient permanently recovered.*

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* *Judicial Inquiry upon a Person who died after ten Days, from a Wound of the Heart.* By G. A. NEUROHR, in *Henkes Zeitschrift,* 1825.

Of this fact—in regard to the legal bearings of this class of wounds—there can be no doubt, that, when death follows from inflammation of the heart or its coverings, when, in spite of the best treatment, the inflammation complicating such wounds proceeds uncontrollably and has a fatal termination, *the wound is* to be pronounced *as necessarily* fatal. But dissection must then show the results of inflammation and the absence of other quicker operating cases. But on the other hand, if inflammation arise in the lungs or pericardium, after heart wounds, and if death follow after manifestly deficient or improper treatment, the wound of the pericardium and heart, having perfectly cicatrized, and no other fatal cause of such result become manifest on dissection, *the wound should not be held as absolutely fatal.* And, in the language of a writer in the *Medicinische Zeitung* " they can only be pronounced as necessarily fatal when, notwithstanding the most proper treatment, violent inflammation comes on, which terminates in death. In individuals who are much predisposed to inflammation, in cases where a foreign body remains, etc., but even, also, in the last case, where foreign bodies remain, healing is yet possible, as individual examples have shown. But those wounds ought not to be pronounced as necessarily fatal, where the treatment was manifestly bad, when, not the inflammation of the heart, but other circumstances have been the cause of death."

Under what circumstances, then, ought we to declare a wound of the heart to be fatal in a legal point of view? On the solution of this question as regards wounds in general much has been written, and definite conclusions have been, in a measure, arrived at. It is plain to be seen that all wounds of the heart in which death immediately follows must be pronounced as fatal, whether death be caused by hemorrhage, or from pressure upon the heart, or from shock to the nervous system. But it is in those cases where death has followed later, say after several days, that we have to inquire carefully into the mode in which it occurred, in order to render definite our opinion of the exact agent by which the fatal result has been produced.

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* Ollenroth in *Medical Times*, vol. vii., p. 77, from Shmucker's *Vermischet Chir. Scriften*, Bd. 11.

If death follow severe and exhausting external or internal secondary hemorrhage the wound is to be pronounced fatal; this result may come on as a consequence of the removal of the coagulum which served as a plug to the wound. But, in such a case, if the extravasation of blood be internal, dissection must show the fact.

If death occur from suffocation, as evinced by dyspnœa and great difficulty of respiration, and dissection show a healed heart-wound, but the chest filled with extravasated blood, and paracentesis has not been attempted, then we cannot declare the wound to have been necessarily fatal.

If death occur from extensive pericarditis followed by effusion, and dissection show a healed heart-wound, as also a healed wound of the pericardium, and little if any attempt has been made to arrest the pericarditis, or to remove the effusion, then, we ought not to pronounce such a wound to be fatal: more especially if the patient be one possessed of a vigorous constitution, and capable of bearing efficient bleeding, and a thorough antiphlogistic treatment.

Again, if death occur from inflammatory complications, other than those of the heart and its investments, and if such complications be those that in a majority of instances are curable, and dissection show that these complications were in a good degree a probable cause of death, the wound ought not to be held as fatal.

In case of the supervention of a disease, which of itself may be mortal, upon wound of the heart, and dissection show a healed heart-wound—such wound evidently must not be held fatal. Case 34 clearly illustrates this point. The patient received a bayonet wound which penetrated into the cavity of the right ventricle. Faintness occurred and life appears to have been preserved by it. The patient, after his injury, remained concealed under an old stair-case for five days, without nourishment, and exposed to severe cold. He was admitted into hospital and died, on the fifteenth day after the receipt of injury, from mortification of the lower extremities consequent on the exposure. On dissection, the wound of the heart, pericardium, and lungs were found completely cicatrized, and there existed no signs of effusion in any of the surrounding parts. Most assuredly it would be wrong to hold this wound of the heart as fatal.

And, finally, if the treatment of a supervening disease be proved to be manifestly faulty, although the wound in the heart be not entirely healed, it must not be held that the wound is fatal.

The following table it will be seen comprises forty cases of severe wounds of the heart, and two in which foreign bodies of considerable size were lodged in the cavity of a ventricle, without wound of heart, all of which are so fully reported that we have not hesitated to regard them as authentic, and therefore to admit them into it. We do not claim that it contains all the recently-reported cases of wound of the heart, neither all the reported cases of recovery from such wounds; for Fordéré, Consbruch, Meglin, Sanson and others have cited cases where penetrating wounds of the heart have been afterward found cicatrized; but the mere allusion to such cases, in the absence of all the attendant facts, has led us to exclude them from the present collection. The case of M. Latour, we believe to be (Case 2) the one reported by M. Fournier.

SEX.	AGE.	NATURE OF INJURY.	PRIMARY SYMPTOMS AND PROGRESS.	RESULT.	POST MORTEM APPEARANCES.	REFERENCES.
M. No. 1	15	Gunshot-wound left side of sternum.	Pulse scarcely perceptible; great difficulty of respiration. On the second day pulse weak and intermittent—syncope, followed by re-action and fever. Emaciated.	Died 67 days after receipt of injury, with hectic symptoms.	Three shot loose in cavity of right ventricle; two in right auricle; cicatrices of wound on surface of heart plainly to be seen; pericardial adhesions Left lung dense, hard, and not more than $\frac{1}{8}$ natural size.	L. Randal, M. D. Western Journ. Med. and Phys. Sci., Vol. 2., p. 329.
M. No. 2		Gunshot-wound.	Severe hæmorrhage, "and was taken up for dead." Three months after suffered from frequent palpitations, which nearly disappeared after three years.	Died 6 years after of another disease.	Deep cicatrices on chest. Ball found lodged in the right ventricle, near its tip, and resting on the septum medium.	M. Fournier. Cas Rares in Dictionnaire des Sci. Medicales.
M. No. 3	41	Gunshot - wound to right of sternum, between 3d and 4th ribs.	Pale and pulseless; breathing short and frequent. 36 hours after accident slight re-action came on.	Died 68 hours after receipt of injury.	Right pleural cavity and pericardium filled with blood. Wound in right auricle, near the base of auricular appendage.	Dr. Dawson. Western Lancet, Cincinnati, Vol. 12., p. 14.
M. No. 4		Gunshot - wound to left of sternum between 6th and 7th ribs.	Vomiting, with cold surface. Scarcely perceptible. Re-action became established 24 hours after injury.	Died 4 days after receipt of wound.	General pericarditis. Wound in right ventricle; also in tricuspid valve. Ball was found in right iliac portion of vena cava ascendens.	R. P. Simmons, M. D. Western Journ. of Med. and Phys. Sci., Vol. 9., p. 382.
M. No. 5	25	Gunshot - wound to left of sternum, between 2d and 3d ribs.	Syncope; no other primary symptoms reported. 11 days had colliquative diarrhœa, labored respiration, and great restlessness.	Died 14 days after receipt of injury.	Left thorax contained two quarts of sero bloody fluid; pericardium thickened, and contained eight ounces of sero bloody fluid. Wound penetrating right ventricle one inch in length, near origin of pulmonary artery. Ball in cavity of pericardium.	J. H. Fuge. Edinburgh Med. and Surg. Journ., Vol. 14., p. 129.
F. No. 6		Pistolshot - wound left of sternum, between 5th and 6th ribs.	Syncope, collapse: pulse fluttering. Re-action about 12 hours after. Third day pleuro-pneumonia set in.	Died 14 days after injury.	Left pleural cavity filled with bloody serum; left lung hepatized. Ball found lodged in left ventricle, near apex, just beneath endo-cardial membrane.	Dr. R. C. Hopkins. Ohio Med. and Surg. Journ., Vol. 5., p. 210. 1853.
M. No. 7		Gunshot-wound.	Symptoms not reported.	Died 13 days after receipt of injury.	Ball entered right ventricle at root of pulmonary artery, passed through portion of tricuspid valve, and fell into left auricle.	Mr. Fuge. Medical Times, Vol. 10., p. 358.
M. No. 8	30	Pistol-shot to right of sternum, towards left side.	Primary symptoms not reported. Two hours after had pain in chest, sickness of stomach, and "respiration constricted."	Dies 44 hours after receipt of injury.	Both sides thorax contained each two quarts of blood—eight ounces in pericardium. Right ventricle and pericardium perforated by a ball, which was found in cavity of pericardium.	Editor of Edinburgh Med. and Surg. Journ., Vol. 14. p., 131.
M. No. 9	33	Pistol-shot to left of sternum, between 5th and 6th ribs.	Raised from the floor, but soon fell senseless; pulse scarcely perceptible; difficult respiration. Four hours after re-action set in, Two days after "heart beat with healthy precision." On ninth day signs of pericarditis.	Died 11 days after receipt of wound.	Lungs and pleura healthy; pericardium distended with bloody serum; heart and pericardium covered with fibrinous exudation. Ball encysted and imbedded to the depth of quarter inch in septum, midway between apex and base of ventricles.	J. M. Carnochan, M. D., American Medical Monthly, Vol. 3., p. 272.
M. No. 10	31	Gunshot-wound near left nipple.	Fell instantly in syncope; partially revived, pulse feeble, dyspnœa; four hours after re-action took place. On 42d day was attacked with erysipelas of left leg, from which he died.	Died 47 days after receipt of injury from erysipelas.	Pericardium contained five ounces of reddish sanies; a piece of wood, "as large as a full-sized writing quill," transfixed left ventricle and septum, and projected into cavity of right ventricle; endocarditis and softening of heart near apex.	Prof. Malle. Clinique de l'Hôpital d'Instruction de Strasbourg, Paris, 1838; and Brit. and For. Med. Rev., Vol. 10., p. 46.

M. 50 No. 11	Knife-wound in left side.	Primary symptoms not reported. For several months it was thought wound would prove mortal; recovered, but subject to palpitations.	Died 9 years after of intemperance.	Opening in pericardium opposite cicatrix in thoracic parieties; cicatrix in right ventricle extending through its entire thickness.	M. Velpeau. Treatise on Surg. Anatomy. Translated by J. W. Sterling, M. D., New-York 1830, Vol. 1., p. 427.
M. 40 No. 12	Kitchen-knife to left of sternum, between 5th and 6th ribs.	Air escaped from wound; great collapse; heart's action scarcely perceptible. Next day re-action came on; a week after dyspnœa, palpitations and extreme anxiety.	Died 29 days after committing injuries.	Pleura contained two pints bloody serum; pericardial adhesion; wound of anterior surface of right ventricle five lines in length; endo-carditis.	Medico Chirurg. Rev., Vol. 22., p. 453, from Journal Hebdomadare, No. 97.
M. No. 13	Knife-wound.	Syncope; pulse feeble, and at times intermittent; breathing difficult. After a few days improved. On tenth day suddenly fainted, and expired.	Died 10 days after receipt of wound.	Wound in left ventricle penetrating to septum; wound filled with a coagulum.	Dr. Fris. American Journ. of Med. Sci., from Filiatre Sebezio di Napoli. May 1834.
M. 26 No. 14	Knife-wound below mamma.	Countenance pale, followed by several fainting fits; pulse weak and intermittent. On the 10th day "fell into a faint, and expired."	Died on the 10th day after receipt of injury.	Cavity of thorax filled with blood; wound in left ventricle extending through to opposite wall; clot in wound preventing flow of blood.	Revue Médicale for July 1834. Dublin Journ., Vol. 6, p. 320
M. 16 No. 15	Knife-wound to left of sternum, between 4th and 5th ribs.	Walked about for ten minutes, then vomited; pulse small and frequent. Soon became insensible; signs of extravasation of blood into chest.	Died 6 days after receipt of injury.	Chest contained twenty-four ounces of blood; wound in pericardium and left ventricle; pus in pericardium, and clot in wound of ventricle.	M. Boyer. Boston Med. and Surg. Jour., Vol. 2., p. 209, from Journ. Hebdomadare.
M. 21 No. 16	Knife-wound.	Ran up stairs; syncope; pulseless; feeble inspiration.	Died in ½ hour.	Pericardium contained four ounces of blood; wound in same one inch in length. Wound through right ventricle one inch; from apex half inch in length.	Dr. H. G. Clark. American Jour. of Med. Sci., N. S., Vol. 26., p. 85.
M. 21. No. 17	Knife-wound in left precordial region.	Syncope; complete collapse; no radial or cardial pulsation. Moderate re-action followed in six hours. Five days after was walking about. Sudden and fatal syncope.	Died 6 days after receipt of injury.	Wound in pericardium and right and left ventricle; cicatrization of wound in pericardium and right ventricle perfect—left open, and in cavity of pericardium twenty-four ounces of blood.	Dr. Trugien. American Journ. of Med. Sci., N. S., Vol. 20., p. 99.
F. 32 No. 18	Knife-wound in region of heart, between 4th and 5th ribs.	Fell immediately to the ground unconscious; complete collapse; respiration difficult; pulse tremulous intermittent. On 46th day declared cured.	Died 66 days after receipt of inj., while in the act of defecating.	Left thoracic cavity contained eight ounces of a yellow fluid; pericardium inflamed and thickened. and contained two pounds fluid blood; heart atrophied; in left ventricle a conical wound, "large enough to admit easily an ordinary sized pair of pincers."	M. Marini. Gazette Médicale de Paris, and Provincial Med. and Surg. Journ. for 1844, p. 209.
M. 38 No. 19	Knife-wound in left side.	"Instantly fell and never spoke;" scarcely any blood discharged from the wound.	Died immediately on receipt of injury.	Wound of abdomen diaphragm, pericardium and right ventricle of heart, one inch in length; pericardium full of uncoagulated blood.	Wm. Wallace, M. D. The Lancet, (London,) Vol. 2., 1833-4, p. 140.
M. 20 No. 20	Knife-wound to right of sternum, between 3d and 4th ribs.	Profuse hæmorrhage; fainting, followed by great restlessness. Fourth day sudden collapse; respiration difficult; peculiar interrupted metallic tinkling heard over heart.	Died 7 days after injury.	Wound in right auricle, at its junction with ventricle, two lines in diameter. Internal mammary artery divided, and right side of chest filled with dark fluid blood,—three pounds, at least.	Dr. Steifensand. British and Foreign Med. Rev., Vol. 8., p. 255; and Med. Times, V. 6., p. 389, from Casper's Wochenschrift, No. 15. 1838.
M. No. 21	Knife-wound to left of sternum, between 4th and 5th ribs.	Staggered a few steps and fainted; re-action came on after a short time.	Died 4 days after receipt of injury.	Left cavity of chest completely filled with bloody serum; pleura inflamed; intercostal artery divided; heart completely transfixed. Wound half an inch in length.	Dr. W. F. Alexander. Amer. Journ. of Med. Sci., N. S., Vol. 13., p. 245.

M. 30 No. 22	Six wounds in precordial region with sharpened file	Air escaped from wound; respiration short and weak; pulse small and irregular.	Died 3 days after injury.	Three or four pounds of blood effused in pleural cavity from wounded intercostal artery; left ventricle contained three wounds penetrating its cavity; inner openings filled with clot.	M. Dupuytren. Lécons Orales de Clinique Chirurgicale. Paris, 1823.
M. 28 No. 23	Knife-wound to left of sternum, between 5th and 6th ribs.	Fell immediately on being wounded, and lost all power of movement. No other particulars of symptoms given.	Died 5 minutes after receipt of wound.	Pericardium wounded and distended, with coagulated blood; anterior wall of left ventricle perforated near apex of heart.	Wm. Wallace, M. D. The Lancet, (London,) Vol. 2, 1833–4, p. 141.
M. No. 24	Knife-wound to left of sternum, between 6th and 7th ribs.	Profuse hæmorrhage; walked 119 feet, and fell in a state of syncope; pupils insensible; respiration slow; pulse imperceptible.—Very slight re-action.	Died 4 hours after injury.	Pericardium contained twenty-four ounces of fluid blood. Wound through right ventricle six lines in length.	J. Drew, M. B., The Lancet, (London,) Vol. 2, p. 691. 1849.
M. No. 25	Sword-wound to right of sternum, between 5th and 6th ribs.	Walked 60 paces. Syncope; re-action soon followed. Third day, dilated wound and profuse hæmorrhage followed. Imprudent dilatation of wound increased danger.	Died on 10th day after receipt of injury.	Right thorax filled with blood. Right ventricle of heart wounded above tricuspid valve; pericardium distended with blood.	Diemerbrœck. Anatomie of Human Body, trans. by W. Salmon, Lond. 1694.
M. No. 26	Sword-wound.	Syncope; great dyspnœa. Re-action feeble.	Died on 5th day after injury.	Cavity of chest filled with blood. Wound in right ventricle, extending through septum medium into cavity of left ventricle; wounds filled with clot.	M. Paviaul. Nouv. Recueil de Observ. en Chirurg., Paris 1792. Month Journ., 1843, p. 284.
M. No. 27	Knife-wound to left of sternum, between 5th and 6th ribs.	Continued fighting, and after running 150 yards, fell down from exhaustion and expired.	Died ½ hour after receipt of wounds.	Two penetrating wounds of chest; left pleura contained three pints of blood. Knife penetrated pericardium and left ventricle at lower part of middle third. Wound transverse, and half inch in extent.	W. Baird, Esq. London and Edinburgh Monthly Journ. of Med. Sci., Vol. 3. 1843.
M. 34 No. 28	Knife-wound to left of sternum, between 4th and 5th ribs.	Face pale and anxious; pulse weak but regular; respiration regular; re-action came on 24 hours after.	Died on 7th day after injury of cerebral disease.	Cavity of chest contained four ounces of blood from wounded intercostal artery. Wound in middle of left ventricle three and a-half lines, extending into its cavity.	M. Dupuytren. Lécons Orales de Clinique Chirurgicale, Paris 1823.
M. 48 No. 29	Knife-wound from a paper-scraper of ebony, left of sternum, between 4th and 5th ribs.	Patient insane. Syncope, with partial collapse: re-action soon followed. A high degree of thoracic inflammation set in.	Died 4 days after injuries.	Left pleural cavity contained thirty-two ounces of black blood, pericardium a small quantity. Heart, right ventricle, traversed; and still contained "a paper scraper of ebony." Tricuspid valve and auricle also wounded.	Dr. Constantin. Calcutta Quarterly Journal of Med. and Physical Society, No. 5. Lancet, Vol. 2. 1838–9.
M. 34 No. 30	Stylet-wound in left side.	Lunatic. When seen two days after, pulse small and intermittent; breathing laborious; undulating sound heard below wound, compared to blood passing through varicose aneurism.	Died on 20th day after inflicting injury.	Pericardium inflamed, and contained twelve ounces of reddish sanies; stylet found, completely transfixing left ventricle, and extending some lines into cavity of right.	M. Ferus. Medico Chirurg. Rev., Vol. 10, from Rev. Med.
M. 33 No. 31	Bayonet-wound.	Severe pain in præcordia, dyspnœa, intense anxiety, heart irregular, a bruit heard like blood passing from an artery into a vein.	Died 16½ hours after injury.	Pericardium opened three or four lines in extent; a large clot in pericardium; wound two or three lines in extent in right ventricle, at summit of heart; bloody fluid in pleural cavity.	M. Jobert, Arch. Gen. Sept., 1839, p. 209.

M. 23 No. 32	Short-sword - wound to left of sternum.	Four hours after, extreme prostration; respiration short and painful; action of heart tumultuous; blood flowed from wound in respiration; bruit like varicose aneurism. 2d day pleurisy; 3d day pulse irregular.	Died on 4th day after injury.	Much fluid blood in abdominal and pelvic cavities; wound of diaphragm, closed by clot, pericardium filled with scrosity and clots, two wounds, one before and the other behind; heart wounded at apex & enveloped with false membranes, traversing the rt. ventricle & severing the columnæ carnæ.	M. Jobert, Arch. Gen. Sept., 1839, p. 209.
M. 23 No. 33	Short-sword - wound to left of sternum.	Syncope; severe hemorrhage from wound; pulse small and irregular, respiration short and quick, bruit as before; 2d day pulse small, respi. painful & short, signs of pleuritis; 3d day worse; 9th respi. suffocation.	Died 9th day after injury.	Six wounds, penetrating the liver, stomach, &c.; left pleural cavity filled with clots and sero-sanguinolent fluid, fibrinous exudation on lung; wound traversing rt. vent.; opening in pericar. closed by a clot which adheres also to wound of heart.	M. Jobert, Arch. Gen. Sept., 1839, p. 209.
M. No. 34	Bayonet-wound.	Frequent fainting—was exposed for five days under an old stair-case. Mortification of lower extremities followed.	Died 14 days after receipt of wound.	Cicatrix of wound observed in lung, pericardium and right ventricle of heart. No effusion in either cavities.	M. Chastenet. Journal de Med. Militaire, Vol. 2.
M. No. 35	Bayonet-wound.	Syncope; pulse scarcely perceptible; re-action came on in a few hours. Expired in the act of defecating.	Died 49 hours after being injured.	Pleura inflamed, and contained coagulable lymph and two quarts of blood. Pericardium nearly filled with blood; wound three-fourths of an inch into left ventricle, and one of the columnæ carnæ of the mitral valves divided.	J. Featherstone, Esq. Medico Chirurg. Trans., Vol. 2, p. 58.
M. No. 36	Penknife - wound to left of sternum, between 7th and 8th ribs.	Syncope instantly followed; pulse feeble but regular; repeated attacks of syncope, in one of which he suddenly expired.	Died 25 days after injury.	Pericardium contained eleven ounces of blood and serum; cicatrix on pericardium; anterior coronary artery divided. Hæmorrhage supposed to have taken place at time of fatal syncope.	Dr. G. W. Richards. Boston Med. and Surg. Journal, Vol. 35, p. 336.
M. No. 37	Bayonet-wound midway between crest of ilium and false ribs.	Withdrew instrument himself, then walked 25 feet and fainted; respiration slow, but by degrees became quick and laborious.	Died 10 hours after receipt of injury.	Bayonet pierced peritoneum, colon, stomach, left lobe of liver, diaphragm, pericardium, right ventricle of heart in two places and lungs. Abdomen and pericardium contained a little bloody serum, left pleura two quarts of blood.	Dr. Babington. Med. Records and Researches. London, 1798.
M. 28 No. 38	Wound from a quadrangular awl to left of sternum, bet. 6th and 7th ribs.	At first felt nothing unusual, walked across street; one hour after partial collapse; pulse frequent and feeble. Suddenly expired.	Died 16 hours after receipt of wound.	Pericardium perforated, and contained more than a pound of dark blood. Wound in left ventricle of heart, near apex.	Dr. Landsberg. Month. Journ. of Med. Sci., Vol. 5. N. S. p. 261, from Schmidt's Jahrbücher, 1851.
M. 21 No. 39	Stab in left mammary region.	On sixth day presented evidences of pleurisy with effusion. Died with cerebral symptoms.	Died on 12th day after injury.	Left pleural cavity and pericardium filled with blood. Pericardium perforated, also right ventricle and septum into cavity of left ventricle.	Dr. Bowen. New York Journ. of Med., N. S., Vol. 3. p. 201.
M. 40 No. 40	Punctured - wounds with a saddler's needle.	Pulse presented no anomalies; a semi-apoplectic state came on, and he sank with marked cerebral symptoms.	Died 25 days after injuries.	Pleuritic adhesions; six wounds of heart penetrating the right ventricle: one into the interventricular septum. Heart pale, and easily broken up.	M. Dupuytren. Lécons Orales de Clinique Chirurgicale. Paris, 1823.
M. 10 No. 41	Gunshot-wound left side between 3d and 4th ribs.	Walked 40 yards; felt faint several hours after re-action came on. After 14 days had frequent rigors, followed by faintness and quick pulse.	Died 37 days after injury.	Chest healthy; right ventricle contained a round stick, 3 × ⅜ inches; one end resting upon apex, and the other upon auriculo-ventricular valve, which was partially ruptured	T. Davis, Esq. Provincial Med. and Surg. Transactions, Vol. 2, p. 357.
M. No. 42	Gunshot - wound in left side beneath axilla.	Respiratory murmur slight; emphysema; dyspnœa recurring, from time to time, with increasing severity. Action of heart weak. Hectic, followed by rapid emaciation.	Died 10 weeks after receipt of injury.	Left cavity of chest contained a cyst, holding a pint of pus. Musket ball in cavity of left ventricle, firmly impacted beneath cordæ tendineæ and columnæ carneæ.	Indian Annals of Medical Sci., No. 1. 1853.

Portions of Heart most liable to Wounds.—All portions of the heart are not equally liable to wounds. In the forty-two cases here tabulated, the right ventricle was found the seat of the wound in twenty-one cases; the left ventricle in twelve; both ventricles two; right auricle two, and the septum in two. In fifty-four cases examined by M. Ollivier,* the right ventricle was found the seat of the wound in twenty-nine; the left ventricle in twelve; both ventricles in nine; the right auricle in three; and the left auricle in one. From this it will be seen that the right ventricle of the heart is as frequently (if not more so) the subject of wounds as all the other portions of this viscus put together. The anatomical relations of this organ clearly explain this. The anterior surface of the heart is principally formed by the right ventricle, it being situated mostly in front of the left ventricle, and thus is more exposed to wounds.

Comparative Mortality.—Upon this point our table furnishes four cases of positive recovery, in all of which the right ventricle was the part injured. On comparing the parts wounded with each other in the fatal cases, it is found that the average duration of life after fatal wounds is much greater if the left ventricle be the part injured. May the greater thickness of its parieties and the disposition of its fibers contribute to this result?

Duration of Life in Parts Wounded.—The statistics upon this point show the following results: Right ventricle, maximum 29 days, minimum died immediately,—average 9 days; left ventricle, maximum 66 days, minimum 5 minutes, —average 13½ days; right auricle, maximum 7 days, minimum 2½ days,—average 4¾ days. In 2 cases in which both ventricles were wounded, maximum 6 days, minimum 4 days, —average 5 days.

Conclusions.—The following conclusions may be deduced from the facts observed in the cases of wounds of the heart here collated:

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* *Dictionnaire de Medécine,* tome viii. Paris, 1834.

That wounds of the heart are not in general immediately fatal.

That recovery, after severe gun-shot, incised and punctured wounds of the heart is possible, and that, too, amounting almost to a probability, provided a careful and judicious treatment is faithfully carried out.

That the presence of a leaden ball imbedded in the walls of a ventricle of the heart does not preclude the possibility of recovery, and is not incompatible with the continuance of life for a number of years.

That it is possible for an incised wound of the heart to heal by first intention, and the patient afterward be able to continue a laborious occupation for years after with no severe manifestations of heart disease.

That the presence of a foreign body, other than a leaden ball, of considerable size in the walls or cavities of the heart, does not necessarily preclude the possibility of a continuance of life for a number of days.

That the *prognosis* of all wounds of the heart is unfavorable, but that in some cases hopes of recovery may be entertained, provided the patient's constitution be good, and efficient treatment be early resorted to.

That the proper treatment of wounds of the heart is that which is adapted to like wounds of the chest in general; and that the inflammatory complications must be met with the same remedies as are adapted to the management of the disease when arising from idiopathic causes.

That all parts of the heart are not equally liable to wounds, the right ventricle being the one most frequently injured.

That the comparative mortality of heart wounds shows that the average duration of life is greater if the left ventricle be the seat of injury. This proposition is opposed to the received opinion of almost all writers on this subject.

That the medico-legal relations of wounds of the heart are important, and should command the surgeon's careful attention, in order that he may not jeopard the life of his patient by timidity on the one hand or temerity on the other; and thereby subject himself to the inconvenience of the raising of a false issue on the management of the case before a legal tribunal. This issue was actually set up in the case reported by Dr. Neurohr, which has previously been cited by us.

Literature of Wounds of the Heart.—Aside from the reports of numerous isolated cases which are scattered through the periodical literature of medicine, and many treatises on surgery and medical jurisprudence; the following are among the principal contributions which have been put forth for the elucidation of this interesting if not important species of wounds.

Some Observations on Wounds of the Heart. By JOHN REDMAN COX, M. D. *American Journal of the Medical Sciences.* Vol. iv., p. 307. Philadelphia, 1829.

An Essay on Wounds of the Heart. By CATHCART LEES, A. B. *Dublin Journal of Medical Science.* Vol. xi., p. 169. Dublin, 1837.

Clinical Lecture on Wounds of the Heart. Delivered at the Jervis Street Hospital, Dublin. By WILLIAM WALLACE, M. D. *The Lancet* (London) for 1833–4. Vol. ii., p. 140.

The Commentaries upon the Aphorisms of Boerhaave. By VAN SWIETEN. 18 vols, 8vo., London, 1759. Vol. ii., p. 77.

Upon Heart Wounds and Extravasation of Blood into the Cavity of the Chest. By DR. STEIFANSAND. *Casper's Wochenschrift*, No. 15. 1838.

Leçons Orales de Clinique Chirurgicale, etc. By M. DUPUYTREN. 4 tomes, 8vo. Paris, 1832–4. *Lecture on Wounds of the Heart*, translated in *The Lancet*, (London,) 1834–5. Vol. i., p. 767.

Wounds of the Heart. By M. OLLIVIER. *Dictionnaire de Medécine.* 30 tomes, 8vo. 1832 to 1846.

Reflections on Penetrating Wounds of the Heart. By J. A. JOBERT (de Lamballe) *Archives Géneral de Medécine* for Sept. 1839.

Upon Wounds of the Heart, especially in their Forensic Relation. Medical Times, (London). Vols. vi. and vii., 1842–3, from *Medicinische Zeitung.*

Case of Wound of the Left Ventricle of the Heart, with General Remarks on Wounds of that Organ. By WILLIAM BAIRD, Esq. *The London and Edinburgh Monthly Journal of Medical Science.* Vol. iii., p. 275. 1843.

On Wounds and Injuries of the Chest. By G. J. GUTHRIE, F. R. S. London, royal 8vo. 1848.

Elements of Medical Jurisprudence. By T. R. BECK, M. D., and J. B. BECK, M. D. 2 vols., 8vo. Albany, 1851. Vol. ii., p. 329. Article *Wounds.*

ART. VIII.—*Protracted Valvular Disease of the Heart.*[*] By JOHN W. CORSON, M. D., Physician to the N. Y. Dispensary; late Physician to Brooklyn City Hospital.

WE cling strangely to threatened life. The wounded man crawling from slaughtered heaps on a battle-field, blesses the surgeon who first tells him he will live. So, too, the sufferer with a crazed faltering heart,—with disease which he knows to kill so many,—must brighten at the professional announcement that he may live quietly for long years. Skill in prognosis then is to be highly prized, and faithfully sought. Not one of us who has ever met the gaze of a sunken eye, reading our inmost soul; or with a whisper started tears of agony or joy from a trembling group around;—or felt the affairs of two worlds interested in our verdict, can ever undervalue this gift of medical prophecy. Nor can we forget the sting of mistaken promise. It is no light thing, to be able to tell a human being whether he will live or die. Yet in all this, there is nothing supernatural. We reason from observing a multitude of cases, and from rules thus formed, some of them as old as the Aphorisms of Hippocrates. Cardiac disease, in its fullness, is so recent a discovery, and we have had so much to learn in its symptoms and pathology, that we have done little in its prognosis. We are naturally apprehensive. We know that sometimes a patient will groan with rheumatism awhile, and then, all but the palpitating heart will be well for a year or two, when it stops like a broken clock, and he faints and falls stone dead; or it struggles wearily for life for months, and then chokes him some day with pulmonary effusion; or it deluges his brain with apoplexy; or makes him hobble more slowly to the grave with palsy; or he grows sallow with the prefix or addition of Bright's kidney, or a swollen liver, and bloats and dies by inches with dropsy; or, strangely enough, with a heart puffing and thumping like a small engine, he keeps his rosy cheeks and lives on tranquilly for many years, to the disappointment of desponding physicians, and expectant heirs, who fancy a man with disease of the heart ought to die soon. Why are these differences? Which valves or chambers can best be spoiled? Do age, sex, labor, causes or complications, influence duration? How long can crippled hearts last? To increase the chances for life, when must we paralyze an active patient, and rob him perhaps of the calling or profession of his enthusiastic choice and sole dependence? If lesions of one valve or cavity differ from others in danger, what are their exact signs? Granting that remedies shorten or lengthen the disease, which are best? After the only sure way—the exact numerical system of that great medical reformer, Louis, we propose in this paper, so far as we are able, to investigate these questions by the relation or tabular analysis of original and selected cases of valvular disease of the heart of at least three years' duration. We have included, without exception, all of this class definitively recorded, which were accessible to us either in text-books or journals for the last twenty years. In the illustration of prognosis we suffered the disadvantage of not meeting a single previous table. That indefatigable numerical observer, Valleix, himself confesses a blank here. Though protracted cases are constantly occurring in private practice, the records of them are scarce. They are met principally among quiet comfortable citizens, or as one of the infirmities of tranquil old age, often under the care of those who publish little, and not in the more carefully recorded experience of the exposed and overwrought poor of hospitals and dispensaries. They must also be watched for several years. Besides, the precise character of several symptoms of heart disease necessary to be noted in a full, accurate description, is comparatively a recent discovery. The prognosis of heart affections, as we may infer from the above questions, practically involves also the consideration of diagnosis, complications and treatment. With this frank confession of difficulties we shall make a beginning.

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[*] Read before the Society of Statistical Medicine.

CASE I..—*Aortic Valvular Obstruction and Regurgitation, with great Hypertrophy, from Rheumatism;—for Thirteen Years.—Gentle Exertion.—Improvement.*

A weaver, aged 32, stout, muscular, having been pronounced to have had organic heart disease by several physicians, after severe rheumatism two years previous in Philadelphia, consulted me in 1844 for palpitation, asthmatic breathing, and muscular pains which incapacitated him from labor, but did not prevent him from quiet and even lengthened walking.

Condition.—Expression anxious; face rather pale; lips scarlet; *eyes bright and protuberant;* gait cautious; respiration sometimes twenty-four; asthmatic; pulse eighty, full, slightly jerking; chest on baring, *bulged* considerably by the immense heart; impulse strong, heaving; apex reaching five inches from sternal center and one inch left of the nipple; precordial dullness 4 inches; a loud sawing murmur with both sounds of the heart and masking them, heard mainly at the right edge of the sternum above, along the aorta, and also in the carotids; no dropsical effusion; liver natural; digestion moderate and fickle.

For the occasional turns of asthmatic breathing and severe palpitation he was ordered to take an aqueous mixture of the iodide of potassium, tincture of hyoscyamus and digitalis, and to use mild counter-irritation with croton oil; to avoid excess, excitement or great exertion; and only to take medicine, when urgently required. Strange to say, though obliged to consult me occasionally for more than ten years past, while the heart-symptoms have remained unchanged, his general health has slowly but decidedly improved. He has entirely escaped either hemorrhage or dropsy. Only a few weeks since he was seen by one of my pupils in the most approved style promenading Broadway.

We find in this case, an example of the wonderful power of adaptation, which the human frame possesses. Just as when a lung is collapsed and spoiled by chronic pleurisy, the opposite one enlarges and compensates the loss; so in this instance the immense heart crowding the lung, partly made room for itself by bulging the walls outward.

Circulation and respiration gradually accommodated themselves to the new state of things, and in the course of a few years the health of the patient greatly improved. The peculiar bulging and fiery expression of the eye noticed in this, and some other cases, will be made the subject of comment under the head of "symptoms." He had been frequently warned by his physicians of his liability to early and sudden death, and this, or something else, made him look older than he was, so that

> "His hair was gray, but not with years."

Latterly he grew more cheerful, probably from proving them as yet false prophets.

Case II.—*Aortic Valvular Obstruction and Hypertrophy from Rheumatism;—for fifteen Years.—Sudden Death.*

A clergyman, aged sixty-eight, slender, slightly florid in complexion, distinguished as a fervid and eloquent preacher, having suffered acute rheumatism followed by palpitation and uneasiness, thirteen years previous, and having been pronounced to have "disease of the heart" by an eminent Philadelphia physician, consulted me in 1847 for dyspepsy and extreme "nervousness." For the earlier half of the above period he had labored faithfully as a city pastor; but he had latterly retired to the country, and preached only occasionally. For some time his heart had been forgotten in attention to his stomach and nervous system. He had never had hemorrhage or dropsy.

Condition.—Expression anxious; complexion and lips clear, fresh; pulse full moderate; respiration natural; no precordial bulging; apex pointing to four and one half inches left from sternal center; precordial dullness three inches; *impulse but slightly strengthened;* a harsh, rasping, right sternal, aortic murmur with the first sound; tongue clean; appetite fickle.

His family were duly warned, but on account of his extreme sensitiveness and fits of dejection, it was decided not to alarm him about his heart. He was simply ordered vegetable bitters and preparations of iron for a time, with digestible nourishing food; to avoid undue excitement or exertion; with permission, till it might prove injurious, to exercise carefully in the pulpit.

Two years after, he was noticed to preach one Sabbath morning with unusual pathos and earnestness, so as deeply to move his audience. It was his last effort,—the song of the dying swan. A few mornings after, I was called to prescribe a soothing diaphoretic for a little nervousness and febrile excitement, but left him walking about his room. In the afternoon he lay down to rest, and when the servant brought him his usual meal, she found him as in a slumber, lying on the bed quite dead. Permission could be obtained to examine the heart only. It was found with the left ventricle dilated and hypertrophied, but the muscular substance firm and free from fatty degeneration. The aortic valves only were diseased, being thickened with scales of calcareous deposit. Patches of atheromatous matter were scattered over the inner surface of the aorta. A portion of the right subclavian was so ossified and brittle, as to break and come away with the fingers. The heart weighed seventeen ounces.

In this case the enlargement happened so exactly to compensate for the aortic obstruction, that the heart attracted but little attention and was for a long time forgotten. The impulse and pulse were nearly natural. Nature, in repairing the injury, had fortunately just hit the mark. The amount of exertion borne by the patient for years, was really surprising.

CASE III.—*Aortic Obstruction and Regurgitation with Hypertrophy from Rheumatism ;—for eleven Years.—Fair Exertion.—Health rather Failing.*

A waiter at the Astor House, aged forty-five, stout, bilious-looking, was admitted under my care at the New York Dispensary, March 29th, 1854, complaining of troublesome cough and palpitation. Eleven years previous, after four months' confinement with rheumatism, his heart-symptoms had commenced; and these were aggravated afterward by repeated attacks of intermittent and congestive fever, while residing in Georgetown, Delaware, requiring the free use of mercury and quinine. He had suffered no dropsy or hemorrhage, and though delicate, had generally been able to be active, till recently.

Condition.—Face sallow; pulse sixty-four, natural; dyspnœa; respiration twenty-two; impulse of the heart, strong heaving; apex four and one half inches left from sternal center, and half an inch beyond the nipple; precordial dullness four inches; a rough, rasping murmur with both sounds of the heart, heard mainly at the right sternal edge above the origin of the aorta; the second sound of the heart accented; liver about normal in size; spleen enlarged; digestion feeble; tongue tolerably clean; no edema; mucous rales indicating slight bronchitis. He was ordered a mixture of the iodide of potassium with the tincture of digitalis, hyoscyamus and cinchona in water, with frictions of croton oil and belladona over the heart. After slight improvement, he soon after discontinued attendance.

The accenting, of the second sound, probably depended on the pulmonary congestion connected with chronic bronchitis.

CASE IV.—*Aortic Obstruction and Regurgitation with great Hypertrophy and Dilatation, from Rheumatism ;—for eight Years.—Moderate Exertion.—Living.*

A shoemaker, aged twenty-nine, stout, muscular, and fresh-looking, was admitted to the New York Dispensary, March 20th, 1854, with an affection succeeding an attack of acute rheumatism while exposed on police duty in Ireland eight years since,—for which he was treated in Stevens' Hospital, and which was pronounced by Sir Henry Marsh to be "organic disease of the heart." He had been able to work moderately since, at his business, but on any unusual exertion he suffered from dyspnœa and palpitation. He had never had dropsy, but during the whole period since his first illness he had been subject to attacks of hæmoptysis with the discharge of bright arteral blood at intervals, which seemed to relieve cardiac oppression, and, to use his own expression, made him "feel lighter." For two years he had suffered considerable deafness, which he supposed to have been caused by a cold.

Condition.—Face and lips florid, fresh; expression anxious; *eyes* *protuberant, bright, staring;* gait cautious; some dyspnœa; respiration twenty-four; pulse eighty-six, slightly thrilling, sometimes intermittent; precordial region slightly bulging; dullness of three and a half by five inches; impulse strong, "heaving;" apex pointing by careful measurement *six inches to the left of sternal center*, reaching below sixth rib, and one inch beyond the nipple; a loud rasping murmur heard with both sounds of the heart, mainly along the right side of the sternum opposite the junction of the second rib; much wax in the ear; tympani seen through the speculum, and both perfect; appetite variable.

He remained under treatment for nearly a month. Syringing the wax from the ears did not benefit the hearing. Asthmatic breathing was relieved partly by an aqueous mixture of the iodide of potassium with the tincture of hyoscyamus, and the attacks of pulmonary hemorrhage were moderated by the acetate of lead and opium. At last a very severe attack of bleeding weakened him so much, that at his request he was sent to Bellevue Hospital.

In this instance the deafness and hæmoptysis doubtless depended on congestion arising from the extra propelling force of an overgrown and powerful heart. As a substitute for leeching or cupping, Nature herself relieved local plethora by turns of hemorrhage like the periodical eruption of a volcano. From the extreme elongation of the heart to the left, as manifested by the oval shape of the dull precordial region, it was evident that the hypertrophy was of the left ventricle.

Case V.—*Aortic Regurgitation with Hypertrophy for six Years, probably from Rheumatism—slightly Aggravated.—Free Exertion.*

A cabin-boy, aged seventeen, tall, ruddy, strumous, in passing through New York to his home in the country, consulted me in September last for alleged "disease of the heart." In very early childhood he had been very ill, but he could not then say what had been the disease. Six years since, or at the age of eleven, he was also ill all winter, and kept in doors by some severe sickness, the nature of which he does not remember, in his native city of Rochester, under the care of a Homeopathic physician. He recovered "after all the doctors" had left him,—with unusual palpitation on walking or running fast, and also, to use his expression, with "swelling of the heart." Two years after, he had severe rheumatism all winter, without medical treatment. Three years later, he was confined to his room for two months, under the care of a regular physician, which, with pleurisy of his left side, left the heart stationary. After this he went to New Orleans for his health, and served as cabin-boy on board several steamers with tolerable comfort until, three months since, the palpitation and heart-symptoms increased so much that he left his employment, and entered the Charity Hospital at New Orleans for a fortnight, and was treated for "disease of the heart," with some relief. Shortly after, he left New Orleans and came in the steamer to New York on his way home.

Condition.—Face very florid; *eyes bright and protuberant;* scrofulous enlargement of the glands on the right side of the neck; jar and unusual motion of the heart detected at a little distance through the clothing; pulse eighty-four, rather firm; decided precordial bulging; impulse strong, undulating; dullness three and a half inches; apex one inch to the left of the nipple, reaching below the sixth rib; a loud, rasping, aortic murmur with the second sound heard at the right of the sternum along the arch of the aorta; left ribs retracted slightly; some dullness from former pleurisy; complains of sciatica of the right hip.

It is strongly probable that the two attacks in early childhood, the nature of which he could not remember, were rheumatism. New Orleans, though the dampest place in the world, has yet a warm climate; and hence it exempted him from rheumatism. We believe that the curative influence of a warm climate in rheumatism is not generally appreciated. A friend of ours, a perfect martyr to the disease when a young man, while residing north, procured entire exemption, for years, while in active practice as a physician at Metamoras, in Mexico; and great subsequent mitigation afterward, in a residence in the vicinity of New York.

CASE VI.—*Aortic Obstruction with Hypertrophy, from Rheumatism; for three Years.—Free Exertion.—Improving.*

A lad, aged ten years, slight in figure, but active, able to play freely with little inconvenience, having had severe acute rheumatism three years previous in Connecticut, and suffering, in the opinion of his physician, with "disease of the heart" immediately afterward, without subsequent dropsy or hemorrhage,—consulted me in autumn last.

Condition.—Complexion naturally brunette, inclined to sallow, but clear, and with no lividity; lips, fresh looking; pulse, eighty-five, rather firm; no precordial bulging; impulse slightly strengthened; dullness a trifle enlarged; apex points even with the left nipple; a *very harsh loud rasping murmur with the first sound*, most distinct over the origin of the aorta, at the right edge of the sternum; breathing slightly asthmatic; occasional turns of palpitation. Latterly, there has been a decided improvement. The hypertrophy here was moderate, and the derangement to health very slight, and yet the murmur was extremely loud, so as to be heard several inches from the chest. A vigorous young heart was playing upon aortic valves, probably merely well roughened, so as to be loudly musical without leaking or regurgitation—proving that the mere quantity of sound is no index of the severity of the disease.

The following example selected from Dr. Blakiston, reckoning to the time of the publication of his work in 1848, is the most protracted of any we have met on record. It is given also as the type of many latent unsuspected cases among quiet aged people, generally from slight aortic roughening from calcareous deposit; and, as in Case II., often causing little or no inconvenience in their daily duties.

CASE VII.—*Aortic Obstruction, from Accident; for twenty-four Years.—Fair Exertion.—"Well," latterly.*

"A lady, aged sixty-five, was thrown from a carriage and struck the ground with her shoulder, in the year 1824. Considerable inflammation ensued. She was attended by Sir P. Crampton and recovered;

but, from that time, she was subject to violent fits of palpitation, which lasted generally twenty-four hours, in one of which I saw her, nine years after the accident. The pulse was intermittent, and there was a lengthened rasp sound running up the aorta. The diastolic sound was strong but muffled. On the fit of palpitation subsiding, the intensity of the sound decreased, but its quality remained the same. I saw her again in 1837, when the fits of palpitation were less frequent and less severe, and the pulse less intermittent.

"In 1846 I again attended her at Torquay, in consultation with Dr. Battersby and Dr. Toogood. The palpitations had entirely ceased for five years. She was then in her eighty-fifth year. The sound was the same as on the two former occasions. She still lives (1848), and is well, having no palpitations, dyspnœa, or edema of the feet."

From this description of Dr. Blakiston we have inferred that she was able to use a *fair* amount of exertion from the expression "is well," and from the fact that no mention is made of her being incapacitated for moderate exercise. She had neither dyspnœa, dropsy, nor hemorrhage. A very curious point in this case, was the gradual *improvement* similar to that mentioned in Case I.; and particularly the cessation of the palpitations for the last five years. In the table of cases, we have included an example recorded by Dr. Semple in the *London Journal*, of a thin old lady, in a charitable institution, at the advanced age of eighty-three years, who, from previous rheumatism, had suffered from valvular disease at least eight years. The pulse was eighty, and feeble; the impulse and dullness were nearly natural, showing little hypertrophy; double sawing murmur was heard over the origin of the aorta. There were also dyspnœa; cough; and some senile bronchitis. She sank gradually with aggravated pulmonary symptoms. On examination after death, the aortic valves were found ossified and narrowed to a mere chink, and the mitral slightly thickened and ossified. We believe that a pretty large per centage of such musical hearts from the ossified deposits, so common at that period, will be found among very aged persons.

M. Neucourt, in some researches on the condition of the heart among the inmates of the extensive asylum for the aged at Salpatriere, published in the *Archives Generales*, states, as one of his conclusions, "that, with them, disease of the heart with very serious impairment of its functions may exist for a great number of years without causing death."

Case VIII.—*Mitral Regurgitation with Hypertrophy, from Rheumatism;—for eight Years.—Only gentle Exertion.—Stationary.*

A lady teacher, aged thirty, slender, consulted me in October last for "disease of the heart." At the age of fourteen, or sixteen years ago, she suffered from rheumatism for eleven weeks; and subsequently she has been a martyr to the disease nearly every year since. She did not notice any unusual sensations about her heart, until after an uncommonly severe attack, for which she remembers she was profusely salivated eight years since. From this time she was subject to severe palpitation and difficulty of breathing on slight exertion, and shortly after she was informed by her physician she had "disease of the heart." It had left her in a very nervous debilitated condition, so that she was unable to walk, even quietly, for years, for any considerable distance, without much exhaustion. She had never had dropsy. Five years since she once lost half a tea cup of blood by hæmoptysis. In May last she suffered a severe inflammatory affection of the lungs, from the prostration of which she is but just recovering; and since which the menstrual discharge has not returned.

Condition.—Face puffy, cheeks suffused, and of a slightly livid claret hue; pulse aggravated by nervous excitement, remaining at 116; impulse forcible, dullness extensive; apex points five inches to the left of the sternal center; with a *churning* harsh murmur heard with the first sound, and most distinctly at the apex of the heart, and below the sixth rib; palpitation on exertion; appetite improving.

In this case the patient had a careworn look, as in Case I.; her hair was becoming quite gray, so that she appeared ten years older than she really was.

CASE IX.—*Mitral Regurgitation with very slight Hypertrophy, from Rheumatism;—for thirteen Years.—Moderate Exertion.—Stationary.*

A young friend, a clergyman, aged twenty-six, slender, but florid, consulted me a few weeks since for cardiac disease of long standing. At the age of eleven years he had suffered for three months with acute rheumatism, which left him without any palpitation or other cardiac symptoms. Subsequently with his father's family, he had passed several years in Europe. Two years after, or at the age of thirteen, while spending the winter in Paris, he had a very severe attack of rheumatism, lasting for six weeks, and accompanied by swelling of the joints, which finally left him with palpitation and other symptoms of disease of the heart, for which he consulted Sir. R. Chermside, M. Monod, M. Bouillaud, and Baron Louis. M. Bouillaud pronounced it a very "grave case." He remembers he was cupped over the heart and took ether and iron. He left Paris for Geneva the following summer in a very weak state, still suffering from heart-symptoms. While in Geneva he was induced to try Homeopathic treatment. During the ensuing year and a half, he began gradually to get taller, and, so to speak, to outgrow his disease. After his return to New York, in 1843, he was under the judicious care of the late Dr. Washington. Entering the ministry he was sent abroad again, and officiated regularly, for a year or more, as a missionary chaplain, at an important post in one of the European cities. Occasionally he has suffered considerable inconvenience for weeks or months from his heart-symptoms, but at no time has he been obliged to suspend his labors for any lengthened period. At present he is able to preach in our city churches.

Condition.—Face delicately florid; pulse natural; no precordial bulging, and little, if any, increase in the area of dullness, or the impulse, or change in the position of the apex. Just over the apex with the first sound of the heart, was a distinct muffled syringe murmur of mitral regurgitation. The appetite and other symptoms were natural.

The comparatively little inconvenience caused in this instance by the disease, doubtless depended entirely on the small quantity of blood escaping and the integrity of the muscular substance of the heart; or, in other words, the absence of material hypertrophy or dilatation. Very *extensive* mitral regurgitation, we believe, from observations not embodied here, to be one of the graver and more dangerous forms of chronic heart disease; and yet the above and the following case from Dr. Stokes, show that a *slight mitral leakage*, when stationary, with little or no enlargement, is not sufficient to produce pulmonary congestion, and may exist with little disturbance, for a great many years. Such encouraging exceptions to unfavorable general rules, when once definitely established, are of great practical value.

Case X.—*Mitral Regurgitation from Rheumatic Gout;—for twelve Years.—Violent Exertion.—Excellent Health.*

A sanguine, active young man, living luxuriously, and just previously in excellent health, on consulting a physician for an attack of epidemic influenza, was surprised with the announcement of disease of the heart, indicated by the bellows murmur of mitral regurgitation, and suddenly ordered to change from good dinners, generous wines, and free horse-back exercise, to low diet, total abstinence, timid walking. These with unnecessary medical treatment soon produced constant fear of sudden death, and depression of mind and body. "It was under these circumstances," says Dr. Stokes, "that I first saw him." The pulse was full and fair, the lungs were healthy, the heart was tranquil and normal in its signs, with the exception of a "distinct" murmur confined to the region of the mitral valve. Depressing treatment alone seemed to have brought on palpitation and aggravated all his symptoms, and there had been no marked cardiac or pulmonary inflammation otherwise to account for the disease. Dr. Stokes attributed the murmur to a slight mitral roughening or "cicatrix" from acute rheumatic gout seven or eight years previous, just sufficient to produce the murmur without interfering materially with the functions of the valve. He advised an entire change of treatment, allowed the moderate use of stimulants, and a return to active business habits. The mitral murmur continued unchanged, and without injury, till the patient was last seen, and during a period of twelve years. He obeyed the request of Dr. Stokes to be examined once a year, continued in excellent health, and at one of the last visits, he had just returned in high spirits from carrying pouch and gun on a hunting excursion among the mountains of Scotland, without the least inconvenience.

Case XI.—*Aortic and slight Mitral Disease.—Great Hypertrophy, from Rheumatism;—for twenty-two Years.—"Half" Labor.—Brief severe Illness.—Death.*

In the report of the New York Pathological Society published in the New York Journal of Medicine for September, 1850, there is a remarkably interesting case with a specimen presented by Dr. Smith of Randolph, Vermont, through Professor Clark, of this city, from which we condense the following abstract.

The patient, a young man of twenty-eight years, had been under the care of Dr. Smith for rheumatism and organic disease of the heart, at times, for twenty-two years previous to his last illness. Both his mother and grandmother had been subject to rheumatism. "Organic disease of the heart" had been detected by Dr. Smith after a severe rheumatic attack when the patient was a lad of six years. He grew up in delicate health and suffered no less than four subsequent attacks of severe rheumatism, respectively at the ages of eight, twelve, sixteen, and eighteen years, besides being incapacitated a few weeks from over exertion at twenty-five. For many years before his death he could perform at intervals of considerable length about half the agricultural labor of other young men. But, as Dr. Smith observes, "At no time could a stranger apply his ear to the chest without astonishment that he could do any kind of work, or without fear that the walls of the heart were about to give way and cover the listener with blood."

No further exact description is given of valvular murmurs or any other physical signs of special complications. After unusual exertion and sleeping in a crowded, ill-ventilated apartment, early in May, 1848, he was seized with a sense of exhaustion, faintness, thirst, restlessness, loss of appetite, succeeded by edema of the feet, cold clammy sweat, feeble and at length almost imperceptible pulse. After suffering a week in this condition, while attempting to rise and walk one day, he fell into the nurse's arms and expired.

On post-mortem the heart was found hypertrophied so as to weigh fifty-eight and a half ounces (or three and a half lbs. averdupois); the left ventricle was an inch thick with a cavity holding eight or ten ounces; the right ventricle was less changed, and the pericardium was every where adherent except some slightly loosened interspaces. Professor Clark stated that on minute examination the mitral valve was "thick and leathery," and the margins of the aortic valves were covered with "adventitious deposit."

In most of the examples of aortic and mitral lesions combined, the disease greatly predominated in one, while the other was but slightly involved. In the following case from M. Forget the disease equally affected both, while the free mitral regurgitation seemed a vent to prevent hypertrophy of the left ventricle.

Case XII.—*Simultaneous Lesion of the Aortic and Mitral Orifices, without Hypertrophy; from Rheumatism;—for three years.—Gradual sinking.—Death.*

A girl aged 26 years, of good constitution, had been attacked three years previous with acute articular rheumatism of long duration, during the course of which she had had palpitations, dyspnœa, and infiltration of the legs, which disappeared. Six months since, the difficult breathing and edema returned. We noted:—face puffy, slightly cyanotic; eyes injected; no bulging; extended dullness of the precordial region; purring tremor; harsh systolic bellows murmur; jugulars pulsating and varicose; pulse small, frequent, at times irregular; dyspnœa extreme; slight subcrepitant rales; considerable anasarca;

enormous ascites; urine reddish. She was ordered diuretics, mainly of digitalis and squills, with fomentations. A few days after, she improved slightly, so as to bear bleeding and the continuation of the diuretics.

The fomentations produced erysipelas of the abdomen, followed by perspirations and more abundant urine.

At the end of a month the infiltration was much diminished; but the dyspnœa and rasping systolic murmur continued. She was ordered diuretics and laxatives.

The patient lingered thus for a long time, when at length the feebleness and edema reappeared, with a bellows murmur, with the second sound distinguished with difficulty in the tumult of the heart; also suffocations, cyanotic appearance, and thread-like pulse.

She was treated with stimulants and revulsives. She died tranquilly four and a half months after her entrance.

Autopsy:—serious effusion in the cavities of the pleura, the peritoneum and the arachroid; serosity in the pericardum; no hypertrophy or dilatation of the left ventricle; auricles gorged with blood; the mitral and aortic orifices equally ossified, deformed, contracted, and insufficient.

Our limits oblige us to close these more full details. To present the largest number of illustrations in the least possible space, we have gathered all the legitimate, well-described examples of valvular disease we could find lasting three years or more, in the following table, as a kind of chart of the whole subject. Further protracted examples of aortic and mitral disease alone, and in every possible combination, and the very rare forms of tricuspid and pulmonic valvular lesions, are gathered from the works of Bouillaud, Bertin, Forget and others, which we trust will repay careful study. We have sought simply and honestly to arrive at truth, and have included every fairly illustrative case accessible to us in the records of the last twenty years, without favoring any theory, and without rejecting any of three years' duration, except they were too vague or imperfect. If some examples defective in minor points have been retained, it has been because they have been definite and instructive in other features, and because our materials have been too scanty to spare them. On the important point most difficult to settle—the precise *duration*—most of the rejections have occurred. All those instances recorded by Andral and others, in which indefinite phrases, such as "many years," "a very long time," and the like are used, have been excluded. In the few less perfect cases retained, the evidence is so strongly presumptive that the chances for error are perhaps not more than one in ten. It is well known that both within and without the profession a vague apprehension prevails that valvular disease of the heart is necessarily and *speedily* fatal. While we desire from an array of facts, to modify and restrain this fear within just limits, we have no desire to lull into false security, those interested in this terrible malady. Frankly, then, we conclude this explanation by reiterating that the following table, as its heading implies, does not present the *medium average*, but the most *favorable extreme*, and that, while its results have delighted and surprised us, we have no wish to throw any off their guard.

A Table of Forty-one Cases of Protracted Valvular Disease of the Heart—for Three Years or more.

ABBREVIATIONS:—p. pulse; pal. palpitation; dysp. dyspnœa; imp. impulse; murm. murmur; dull. dullness; r. right; l. left: st. sternal; ap. apexial; sys. systolic (1st sound); diast. diastolic (2nd sound); w. with; wt weight; ld. loud; str. strong; * autopsy.

NO.	SEX.	AGE.	CONDITION. EXERTION.	CAUSE.–YEARS DURATION.	SOME SYMPTOMS.	VALVES AFFECTED.	HYPERTROPHY, DILATATION & PERICARD. AD.	COMPLICATIONS.	RESULT.	AUTHORITY.
1	M.	68	Clergyman. Act. or seden.	Rheumatism. 15	Face anx. fresh.; p. nat.; pal.; dull. 3in; imp. mod.; murm. sys. r. st. rasp.	Aort. obstr. fr. ossific. dep.	l. hypert. dil. wt. 17oz.	Dyspepsia. "nervousness."	Sud. death.*	J. W. C., *N. Y. Jour. Med.*
2	M.	10	School-boy. Active.	Rheumatism. 3	Face nat.; sallow; p. 85 firm pal.; imp. mod.; dull. sl. inc.; murm. sys. r. st. ld. rasp.	Aort. obstruct.	Slight hypert. with dilatation.	----------	Improving.	J. W. C. *N. Y. Jour. Med.*
3	F.	32	Married.	14	p. feeble; prec. pain; dysp.; cough; imp. br. str.; dull ext.; interm.; mur. sys. bel. *l. ster.*	Aort. obstruct. thick contracted.	Great hypert. w. dilatation.	Hæmoptysis.	Sank grad.*	DR. HAYCRAFT, *Lond. Med. Gaz.*
4	M.	33	----------	Rheumatism. 10	p. full intermitt.; pal.; dysp.; dullness to r.; murm. doub. sawing.	Aort. obstruct. shrivelled indur.	Some hyper. great dil. per. ad.	----------	Died.*	MR. TRIPE, *Lond. Lancet.*
5	M.	59	"Gentleman."	4	p. full; pal.; pain; dysp.; cough; bulg.; imp. str.; dull. extend,; murm. r. st. grat'g carot.	Aortic obstruction. thickened.	Great hyper. dila. ad. per. wt. 28oz.	Sl. aneurism. album 6mo.	Sank grad.*	DR. WILLIAMS, *Lond. Lancet.*
6	F.	young.	"Lady." Usual amuse.	6	p. shrill; pal.; pain; dysp.; cough; "purring;" imp. str.; murm. sys. grating.	Aort. obstruct.	----------	----------	Continued well.	DR. WILLIAMS, *Lond. Med. Journ.*
7	M.	52	Cook. Moderate.	10	Face paralysed, distorted; p. 96 full; dysp.; cough; pal.; murm. loud rasp.	Aortic obstruction. calc. concretion.	Great hyper. w. dila.	Palsy apop. dropsy.	Died sudd. apop.*	DR. HOPE, *Dis. of Heart.*
8	M.	24	Gardener.	Rheumatism. 8	Face puffy; restless; p. 120 full jerking; pal.; imp. ext.	Aortic obstruction. cartilag.	Great hyper. w. dila. per. ad.	Hæmoptysis.	Sank grad.*	DR. HOPE, *Dis. of Heart.*
9	F.	87	"Lady." "Well."	Fall. 24	p. intermitt.; pal. 19 years; murm. sys. r. st. ld. rash; 2d sound accented.	Aortic obstruction.	None mentioned.	Probably pleurisy.	Living. "well."	DR. BLAKISTON, *Dis. of Chest.*
10	M.	17	Cabin-boy. Active.	Rheumatism. 6	Florid; eye protub.; p. 84; pal.; bulg. imp. str. heaving; dull. $3\frac{1}{2}$; mur. diast. r. st. rasp.	Aort. regurg.	Med. hyper. w. dilat.	Pleurisy scrof. scia.	Latterly failing.	J. W. C., *N. Y. Jour. Med.*
11	M.	32	Weaver. Quiet walk.	Rheumatism. 13	Pale; eye prot.; p. 80 jerk.; pal.; dysp.; bulg.; imp. st.; dull 4in; murm. r. str. sawing doub.	Aortic obstruction and regurgitation.	Large hyper. dila.	Asthmat. occasi. bronchit.	Good. improving.	J. W. C., *N. Y. Jour. Med.*
12	M.	29	Shoemaker. Moder'ly act.	Rheumatism. 8	Florid; eye protub.; p. 86 int. shrill; resp. 24; dysp.; pal.; im. heav.; dull 4; murm. r. st. saw.	Aortic obstruction and regurgitation.	Large l. hyper. with dilat.	Hæmoptysis. deafness.	Latterly failing.	J. W. C., *N. Y. Jour. Med.*
13	M.	45	Waiter. Active.	Rheumatism. 11	Sallow; p. 64 nat.; dysp.; pal.; imp. s. heav.; dull. 4; mur. sys. r. st. saw.; 2d sd. acc.	Aortic obstruct. and regurg.	Large l. hyper. with dilat.	Bronchitis. enlar. spleen.	Latterly failing.	J. W. C., *N. Y. Jour. Med.*
14	F.		----------	Pulm. inflam. 8	p. small; cough; imp. heaving; murm. doub. saw. r. ster.	Aortic obstruct. and regurg. cart.	Great hyper. w. dilat.	----------	Died sudd.*	DR. BLAKISTON, *Dis. of Chest.*
15	M.	20	Green grocer. Active.	Rheumatism. 5	Face puffy; p. jerking; pal.; dysp.; imp. doub.; jogging; murm. sawing doub. st.	Aortic obstruct. and regurg. ossif.	Great dil. some hyper. exc. ad. peric.	Dropsy.	Sank grad.*	DR. HOPE, *Dis. of Heart.*
16	M.	19	Unemployed. "Delicate."	Prob. 12	p. full resilient, "wavy"; cou.; dysp.; pal.; pain; im. str. heav'g; dull. ex.; m. dou. saw. g. st. car.	Aortic obstruct. and regurg. ossif.	Enorm. hyper. with dil.	Hæmoptysis.	Sud. death.*	DR. BLAKISTON, *Dis. of Heart.*
17	M.	61	Cabinet mak'r. (Intemp.)	Rheumatism. 3	p. 120 weak; dysp.; pal.; murmur grating blowing.	Aortic obstruct. and regurg. ossif.	Great hyper. w. dilat. ad. peric.	Atr. liv. dropsy.	Died.* sank. grad.	DR. S. ALISON, *Lond. Med. Gaz.*
18	M.	45	Laborer.	Rheumatism. 6	p. 72 full thrill.; pal.; distress; dysp.; cough; imp. diff'ent; murm. sawing.	Aortic obst., harsh, and regurg., soft. ossif.	Great hyper. w. dilat.	----------	Died sudd.*	DR. WILLIAMS, *Lond. Med. Gaz.*
19	M.		Active.	16	Not mentioned. (Prostrated and then "let alone" for 16 years.)	Aortic. vegetations.	----------	----------	Died.*	DR. CORRIGAN, *Dub. Journ.*

20	M.	40	--------------	3	p. full bounding ; pal. ; pain.	Aortic. ossif. inverted.	Pericard Ad.	Angina. pec. aneur.	Sank grad.*	Dr. Hodgkin, *Lond. Med. Gaz.*
21	F.	30	Teacher. Feeble.	Rheumatism. 8	Face & eyelids puffy, livid ; p. var. ; pal. ; dysp. ; c. ; im. b., swel. ; dull. ex. ; mur. apex. s. m. sy.	Mitral regurgitation.	Dilatation with hyper.	Amenorrhœa. slight heamopysis.	Living. delicately.	J. W. C., *N. Y. Jour. Med.*
22	M.	26	Clergyman. Moderate.	Rheumatism. 13	Face florid ; p. nat. ; pal. ; imp. and dullness nearly nat. ; murm. sys. ap. syr.	Mitral regurgitation.	Very slight hypert.	----------------	Living. mod. exert.	J. W. C., *N. Y. Jour. Med.*
23	M.	young.	Profession. Active.	Prob. rheum. 12	Distinct ap. mur. (bellows) palpita. when weakened by treatment.	Mitral regurgitation.	None mentioned.	----------------	Living in excel. healt.	Dr. Stokes. *Dis. of Heart.*
24	M.	old.	"Gentleman." Very active.	Not given. 4	"Loud rough mitral murmur."	Mitral regurgitation.	----------------	----------------	Hunting daily.	Dr. Stokes, *Dis. of Heart.*
25	F.	29	Unmarried.	7	p. small, interm. ; pal. ; dysp. ; cough ; murm. sys. apex.	Mitral regurgitation. obst. (ossif. contract.)	Rather small.	Dropsy. palsy.	Death.*	Dr. Watts, *Lond. Med. Gaz.*
26	F.	25	Servant. Unmarried.	5	Face livid ; pal. ; cough ; murm. sys. ap. ; 2d sound oblit. at apex.	Mitral regurg. ossif. contract.	Hypertrophy of right vent.	Dropsy. bronchitis.	Sank grad.*	Dr. Budd, *Lond. Med. Gaz.*
27	F.	29	Dressmaker. Single.	Rheumatism. 12	pal. ; dysp. ; cough ; murm. sys. apex. rasp.	Mitral regurg thickened.	Adher. pericard.	Pleurisy.	Died.*	Dr. Blakiston, *Dis. of Heart.*
28	M.	60	"Gentleman."	Rheumatism. 8	p. small, feeble ; dysp. ; cough ; im. str. ; murm. sys. ap. blowing.	Mitral regurg. thickened.	Great hyper. 22oz.	Dyspepsy. dropsical.	Sank grad.*	Dr. Furnivall, *Lond. Lancet.*
29	M.	40	Farrier. Moderate.	Fall. 8	p. irreg. ; pal. ; dysp. ; cough ; imp. diff. ; murm. whiz. ap. sys.	Mitral regurg. thickened.	Great hyper.	Dropsy. jaundice.	Sank grad.*	Mr. Moore, *Lond. Lancet.*
30	M.	29	Spare, delic.	Pleurisy. 9	p. str. vib. in com. ; pal. ; pain ; imp. str. heav. ; dull. ex. ; murm. doub. sternal.	Aort. mainly. ossif. Mitral slight. thick.	Enor. hyp. dil. ex. per. ad. wt. 44oz.	Frightful parox.	Died sud.*	Mr. C. King, *Dub. Hosp. Journ.*
31	F.	83	"Thin old woman."	Rheumatism. 8	p. 80 reg. feeble ; imp. and dull. nearly natu. ; murm. doub. saw. aortic.	Aortic mainly. Mitral slight. ossif.	Little change.	Bronchitis. pleuro-pneumon.	Sank grad.*	Dr. Semple, *Lond. Journ.*
32	M.	28	Prob. farmer. "Half" labo.	Rheumatism. 22	Imp. ex. str. (few details.)	Aortic mainly. ossif. Mitral slightly.	Enorm. hyp. dil. ext. per. ad. wt. 58½oz.	----------------	Sank grad.*	Prof. Clark & Dr. Smith, *N. Y Journ.*
33	F.		Married.	Parturition. 10	Face livid ; p. sm. interm. ; pal. ; dysp. ; imp. impercep. sounds short. ; no murm.	Mitral contracted. Aort. very slight. thick.	Right dilat. left slight.	Pulm. ap. bronch. dropsy.	Sank grad.*	Dr. Hope, *Dis. of Heart.*
34	F.	26	Good consti.	Rheumatism. 3	p. freq. sm. irreg. ; dysp. ; dull. ext. ; purring ; murm. rasp. sys.	Mitral cont. aortic. ossif.	----------------	Dropsy twice.	Sank grad.*	M. Forget, *Prècis. Th. et Pr.*
35	M.	26	Robust.	Rheumatism. 5	p. sm. hard. resil. ; slight bulg. ; dysp. ; pain ; pur. ; im. st. ; jugu. pul. ; murm. fugitive.	Mitral contract. ossif. Aortic thick.	Hyper. of both vent.	Dropsy.	Sank grad.*	M. Forget, *Prècis. Th. et Pr.*
36	M.	28	Currier. Mostly active.	Rheumatism. 14	p. irreg. weak. latterly ; pal. ; dysp. ; cough ; imp. str. large ; murm. bellows.	Mitral contract. ossif. Aortic insuf.	Great hyper. with dil	Dropsy.	Died.*	*Lond. Med. Gaz.*
37	F.	45	Married.	Lifting. 3	p. 80 int. ; pal. dysp. ; cough ; pain ; imp. str. ; murm. aort. doub. whiz.	Aortic mainly ; mit. and tric. slight. cartil.	Much hyper.	----------------	Died sud.*	Dr. Hallowell, *Hay's Phil. Jour.*
38	F.	19	Seamstress. Delicate.	Pulm. inflam. 3	p. 60 ; pall. ; dysp. ; cough ; dull ext. ; murm. apex. saw. sys.	Mitral contr. Aortic & tri. slight.	Hypertro. 12oz. Liver enlarg.	Pneumonia.	Sank grad.*	Bouillaud, *Mal. du Cœur.*
39	M.	21	Lawyer's clerk.	Rheumatism. 7	p. sm. ; pal. ; dysp. ; constric. ; bulg. ; purring ; jug. puls. ; murm. apex. sys. saw.	Mitral regurg. veget. Triscusp.	Dilatation.	Dropsy.	Sank grad.*	Dr. Blakiston, *Dis. of Chest.*
40	M.	48	--------------	Pulm. inflam. 8	p. sm. soft irreg. ; pal. ; imp. sternal ; dull. r. ster. ; dysp. ; cough ; *puls. jugulars.*	Tri. regurg.	Right. Hypert	Hæmoptysis. pulm. ap. dropsy.	Sank grad.*	Mr. Tripe, *Lond. Lancet.*
41	F.	57	Delicate. feeble.	Mens. cessa. 10	Dysp. ; dull. r. stern. ; insensibility.	Pulmon. contract. ring.	Right hypert. 12oz.	Palsy. ap. cer. soft.	Sank grad.*	Bertin, *Mal. du Cœur.*

Valves Affected.—This point was determined *anatomically*—as marked with an asterisk by post-mortem examinations in all the fatal cases, amounting to thirty, or about three fourths of the whole; and *clinically*, or by the murmurs, and other symptoms in the remaining eleven cases living. Both methods throw light upon the subject, and, to do full justice, where circumstances allow, both should be used. During life, and while our services are of value to the individual patient, of course only clinical tests of valvular disease are available. Did our limited space allow, we could offer, in detail, evidence to show, that occasionally the mitral or tricuspid valves, by a curative effort of nature, thicken and enlarge with the gradual increase in the size of the diseased ventricle, so that valvular murmurs or other signs may cease, and the valves be *refitted.* Such were some of the cases reported in the *Dublin Journal* by Dr. O'Ferrall. We have a patient now under observation, who was quite disabled with rheumatic disease of the heart with a loud mitral murmur a few months since, whose murmur has lately ceased, and who has returned to active labor. It is true these recoveries are the fortunate exceptions, and not the grave rule. But these repaired valves, working well during life, would be rejected after death as unsound, by the nice measurements of a mere morbid anatomist. On the other hand, as M. Forget has observed, valves may be really diseased and not, in every case, give forth murmurs or corresponding signs. As a fair compromise we may then adopt, for the present, the following classification, mainly anatomical, in enumerating the above, which, from the necessity of frequent reference, we arrange thus distinctly:—*Valves Diseased.*—AORTIC ALONE, 20; MITRAL ALONE, 9; AORTIC AND MITRAL, 7; AORTIC, MITRAL AND TRICUSPID, 2; MITRAL AND TRICUSPID, 1; TRICUSPID, 1; PULMONIC, 1.

Obstruction and Regurgitation.—Not merely as nice points in diagnosis, but as causing important differences in their results, do we notice these features. Obstruction, as we all know, is the term used where the narrowing or roughening of the orifices or valves of the heart impede the onward current of the blood, producing generally either a loud murmur over the aortic valves with the *first sound* of the heart; or, more rarely, a faint obscure murmur over the mitral valves with the *second sound.* Regurgitation, on the contrary, as we know, is the flowing back of the blood through the leaking or "insufficient" valves, spoiled and unfitted by disease, and commonly gives murmurs either over the aortic valves at the sternum with the *second sound*, or over the mitral valves at the apex with the *first sound.* Aortic obstruction and regurgitation are usually found together, from the roughness and leaking of the valves at the same time, and hence they affect both sounds, and cause a double or sawing murmur. It will be seen in the following classification of those specified in our list, that the cases with aortic obstruction alone and those combined with regurgitation were about equal, while aortic regurgitation without obstruction occurred but once; and that all the mitral murmurs were regurgitant:—AORTIC OBSTRUCTION ALONE, 9; AORTIC OBSTRUCTION AND REGURGITATION, 8; AORTIC REGURGITATION ALONE, 1; MITRAL REGURGITATION ALONE, 9.

Sex and Age.—It will be seen on inspection that about two thirds in the whole forty-one cases were males. This result was produced almost entirely by the preponderance of males in the large class of aortic cases, being in the proportion of three males to one female. In the mitral and other classes the sexes were about equal. Thus, of the forty-one cases, twenty-seven were males and fourteen females; of the twenty aortic, fifteen were males and only five females.

So also the commonly-received opinion that mitral disease attacks a younger class of subjects was confirmed. In the seventeen cases of aortic specified, the average age, rejecting small fractions, was forty years, while eight mitral only averaged thirty-two years. The remaining ten miscellaneous, and the whole forty-one cases, averaged thirty-nine years.

Condition, Exertion.—One of the most painful duties of a physician is to be obliged to paralyze an active and useful patient in the pursuits or amusements of a life-time, to palliate incurable disease; yet our prognosis in heart affections sometimes partly depends on whether a man is rich or poor; or, in other words, whether he can afford to be quiet, or whether he must fret and toil hardly for his daily bread. Singular anomalies sometimes occur, setting at naught all calculation. A few with cardiac disease can endure surprising physical exertion, while the majority are either injured or destroyed by violence or excitement.

In the above list the physical capacity of the patient is sufficiently defined for classification in twenty-one instances. Of these there were unembarrassed and "*active*," seven aortic and two mitral; "moderately active," three aortic, two aortic and mitral, one mitral and one pulmonic; "*moderately disabled*," two aortic and mitral and one aortic; "*disabled*," one aortic and one mitral. The most physical exertion with the least embarrassment was borne in aortic or mitral difficulties with little or no hypertrophy, while in some cases of extensive enlargement with aortic lesions very considerable exercise was permitted.

Causes.—The etiology of disease of the heart has latterly acquired unusual interest. Pathologists generally were prepared to yield by far the largest share of the origin of cardiac difficulty to rheumatism, when they were startled by the announcement by Dr. Taylor, in the *Medico-Chirurgical Transactions*, that among the frequently-intemperate patients of a London Hospital, in thirty-one cases of pericarditis, nine if not eleven were associated with Bright's disease. With other observers since, the proportion has been less. Whatever may be its influence in acute affections, Bright's disease only occurred in the above list of protracted cases once, at the close of a case, whose end it seemed to hasten, while in the twenty-nine instances in which the causes are named, twenty were from rheumatism, four from pulmonary inflammation, and three from violence. Two thirds are thus assigned to rheumatism and one tenth to pleurisy and pneumonia.

Duration.—Under the vague apprehensions that have prevailed, this is one of the most interesting points in the whole discussion. For reasons to be explained, we shall group our cases differently under the head of prognosis. The reader will find vague speculations on this subject in the contributions of Valleix,* Williams and others, but we are not aware that the *differential* duration of the several forms of valvular disease have before been made the subject of careful estimate. We are exploring, then, new and difficult ground. To be perfectly accurate, we need larger numbers. We cannot but regard these figures however as a valuable approximation toward the average limit of the most favorable class of cases of valvular affections. We did not expect so hopeful a result even with the best.

In round numbers, the average duration of these forty-one selected cases, it will be perceived, reaches the extraordinary term of nine years. Allowing for the probable addition in eleven patients still living at the time of the report, amounting to over one fourth of the whole number, we might be safe perhaps in rating the *probable* average duration of these forty-one favorable cases at the easily-remembered figure of *ten years.* It will be seen that the longest in duration as a class, are those with aortic obstruction alone, and the shortest are those in which valves of the right and left side are simultaneously involved. Smaller fractions are rejected. The results are so interesting that, for convenient reference, we state them in the following distinct form :—

AVERAGE DURATION.

Nine cases of Aortic Obstruction	$10\frac{1}{2}$	years.
Eight do. of Aortic Obstruction and Regurgitation	$8\frac{1}{4}$	"
Nine do. of Mitral Regurgitation	$8\frac{1}{2}$	"
Seven do. of Aortic and Mitral	10	"
Six do. of Miscellaneous	6	"
Three do. of right and left simultaneously	4	"

Symptoms.—The *face* is often a valuable index in disease of the heart. If Nature in her efforts has just compensated for the obstructed or leaking valves by strengthening the ventricles and *no more*, then the face may be *natural;* if she over-does the matter, and there is more hypertrophy and more power than is needed, then the cheeks may be unusually florid and the lips freshly ruby. Where there is excess of hypertrophy, with aortic valvular disease, there is sometimes a *protuberant staring expression of the eye*,—a symptom of organic cardiac disease, by the way, which we supposed for years to be a little discovery of our own, till at last we noticed it was mentioned in a late edition of Dr. Walshe. It somewhat resembles the bright bulging eye with swelling of the thyroid gland described by Drs. Graves and Stokes as peculiar to certain functional cardiac affections. A puffy appearance of the eye-lids is sometimes noticed in heart disease with a tendency to edema. As consequences of valvular affections, too, we may have the pale chlorotic features and bloodless lips of passive dilatation; the jaundice of a disordered liver; the waxy, cancerous hue of Bright's disease; the distortion of palsy, and especially the *livid dusky or purplish lips and face*, generally either from the pulmonary congestion of too free mitral regurgitation or hypertrophy of the right ventricle. The appearances of the face and eye which happen to be mentioned in the above list, with the corresponding valvular affections, may be thus enumerated: *Fresh or florid*, aortic obstructive, 2; Aortic regurgitant, 1; Mitral regurgitant (with slight hypertrophy), 1; *Bulging bright eye*, aortic obstructive and regurgitant, 2; Aortic regurgitant, 1; *Puffy* appearance, aortic obstructive, 1; Aortic obstructive and regurgitant, 1; Mitral regurgitant, 1; *Livid or dusky*, Mitral regurgitant, 2; *Distorted*, Aortic obstructive, 1.

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* *Guide du Medécin Practicien.*

The pulse was noticed in thirty-two cases. It was "jerking," or "thrilling" in nine instances, all with aortic valvular difficulties, and all of which were regurgitant. As a general characteristic, it will be perceived that the pulse was harder and fuller in aortic valvular affections than in mitral difficulties, which tended to render it smaller and weaker. We can understand this from the fact that mitral regurgitation acts on the principle of a leakage or rent in an India-rubber bag, while mitral obstruction would diminish the supply. Intermittent pulse often exists from idiosyncrasy in health, or temporarily, in mere functional disturbance of the heart. In the above list the pulse was intermittent or irregular in nine instances, of which more than half had mitral disease, either singly or combined, and as the whole number of protracted mitral affections were not quite half as numerous as the aortic, it follows that either a weak, small, or intermittent pulse is most frequently characteristic of mitral disease.

Palpitation has been defined to be the sensation of unusual or painful action of the heart, generally occurring in paroxysms. It is by no means confined to organic disease. In the above list it is one of the most frequently noted of the symptoms, being found in thirty-two instances pretty equally distributed through all forms.

Precordial Pain seemed caused mainly by the pressure of the enlarged heart, as in aneurism, and especially the violence of the knocking impulse. In proof of this view we have the fact that in seven of the eight instances in which precordial "pain" is recorded above, there were also strong impulse and large hypertrophy, and in the solitary case where they are not mentioned, only two or three symptoms are given, and both these may be inferred from the "full bounding impulse." All these eight illustrations were wholly or partially aortic, while not one of the cases of mitral disease alone had pain.

Precordial Bulging, though often overlooked from its requiring careful inspection in front and laterally, seems also to depend on the same causes. Both the instances in which it occurred above, were aortic with large hypertrophy.

The Impulse of the heart was noted in twenty-six cases. Though temporary variations from the natural standard are frequent in mere functional disorder of the heart, yet when these are attended with an increase in the area of the dull precordial region, they become certain indications of organic enlargement. It is curious to notice above that the force of the impulse is affected by the character of the valvular lesion. Of the thirteen instances in which the impulse is marked strong or heaving, twelve are aortic, and only one purely mitral, and in this last it may have been from adherent pericardium. The seven cases most forcible or heaving are all aortic, and, with the exception of one purely obstructive, all, either combined or simply, have aortic regurgitation. Of the cases comprising five marked "moderate," one (mitral and tricuspid) "feeble," and six without undue force, as simply "extensive,"—eight, or two thirds, were wholly or partially mitral. There are natural reasons for these differences. The aortic valves are the gates to the whole arterial system, and they require a larger, firmer heart, and a stronger impulse to make up for their deficiency. Beside, in free mitral regurgitation the ventricle empties itself, in contraction, more easily through the additional orifice, opened by disease, than the single natural outlet in health, or when the mitral closes perfectly. Hence the impulse of aortic disease is stronger, and of mitral, weaker.

The Purring Tremor, or *Fremissement Cataire* of Laennec, occurs, as is well known, most frequently in mitral disease. In affections of the aortic valves it is supposed that the intervention of the sternum prevents this peculiar vibratory sensation to the hand, similar to that from the purring of a cat. In the three cases in which it was above mentioned, there were mitral and aortic, 1; mitral and tricuspid, 1; and aortic obstructive, 1.

Apex and its dull Space.—To the rule laid down by Hope and others that the apex of the heart should point, in health, just above the sixth rib, two inches below the left nipple, and one inch to its sternal side, we have sometimes added, as a less variable standard, the measurement of three and a half inches to the left of a line in the center of the sternum, as the center of the apex and its dull space. Although the dull space, over the apex, of one and a half or two inches, is nearly circular in health, yet, on delicate percussion, when enlarged by disease, it is sometimes imperfectly triangular or oblong. The number of inches mentioned in some of the cases above refers to the *average* diameter.

Pulsation of the Jugulars.—As is well known, this is the great diagnostic test of regurgitation, or insufficiency of the tricuspid valves. With every contraction of the heart there is a wavy pulsation, easily recognized by the eye, in the jugulars, which, with the other veins of the neck, are in this case generally enlarged. This sign is noticed above in three cases.

Accented second Sound.—The importance of this sign, we believe, was first pointed out by Prof. Skoda.* He states that in mitral regurgitation and obstruction, on applying the ear over the pulmonic valves the second sound of the heart is prolonged and intensified. We have frequently noticed this sign, when there was bronchitis or congestion of the lungs from embarrassed circulation in other varieties of valvular disease. This last almost always occurs in serious mitral disease of either kind. The accent is a delicate test, when slight, and easily overlooked. In both the instances in which it happened to be noted above, there was aortic difficulty alone.

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* *Abhandlung über Perkussion und Auskultation.*

Valvular Murmurs.—A glance at the above table will confirm the general doctrine that aortic murmurs, as a class, are usually more harsh than mitral. Dr. Hope recognized this principle in comparing the blowing aortic murmur to a whispered "awe," and the mitral to a softly breathed "who," on a lower key. But these are doubtless much modified and varied by duration, becoming as a general rule more harsh and loud. We fancy that mitral murmurs are generally the most liquid or moist in their character.

In the thirty-four instances, in which the character of the murmurs were given above, there were, "Sawing," Aortic, 9; Aortic and Mitral, 1; Mitral, 1; Mitral and Tricuspid, 1; Mitral Tricuspid and Aortic, 1; there were "*Rasping*," Aortic, 5; Aortic and Mitral, 1; Mitral, 1; "GRATING" Aortic, 3; "*Bellows*," Aortic, 1; Mitral, 1; Mitral and Aortic, 1; "*Muffled syringe*," Mitral, 2; "*Whizzing*," Mitral, 2; "Loud rough" Mitral, 1.

Thus sixteen out of the entire aortic seventeen were either sawing, rasping or grating, while only two mitral out of nine were harsh; one rasping and one loud rough. Under another head we have stated in detail that the aortic obstructive murmurs alone, and obstructive and regurgitant together, were about equally divided—there being nine of the former, and eight of the latter—while the whole nine mitral were regurgitant.

In more acute or recent valvular lesions, before the heart has time to be enlarged or displaced, the sound of valvular murmurs is carried but a short distance by the stream of blood. Hence obstructive aortic murmurs are almost invariably loudest at the *right edge* of the sternum over the origin of the aorta near the junction of the second rib; while the murmur of aortic regurgitation, especially when free, is often loudest at the *left edge of the sternum* a little lower down and near the middle of the heart.

In the above list, probably from the great hypertrophy in protracted aortic disease crowding the heart upward, all the *aortic* murmurs, except one case of obstructive bellows murmur, were *loudest* at the *right edge of the sternum.* In two cases the aortic murmur was also heard in the carotids. The nine *mitral* murmurs were all loudest at the usual seat, a little upward and outward toward the left nipple, over the *apex of the heart.*

Diagnosis.—Our highest aim in this discussion is simply to be useful. If, from a vivid recollection of such difficulties ourselves, for the encouragement of some of those younger students of the profession who have at times so kindly listened to our humble teachings, we try to arrange, more clearly, technicalities and elementary distinctions in the study of heart disease, quite common-place to others; and if we wander from dry facts and figures to familiar illustrations; we hope after this frank confession to be forgiven.

One half the cases of derangement of the heart for which we are consulted in private practice especially, are simply functional affections.

It is very easy to mistake the slight aortic blowing or whiffing of anemia, or the distressing palpitation and violent impulse of mere temporary functional irritation, or congestion, or debility of the heart, for organic valvular disease, and its almost invariable associates, hypertrophy and dilatation.

We may be excused then, for repeating the following analysis, partly from Canstatt,* which we adopted in an article in this Journal sometime since on "Functional and Sympathetic Affections of the Heart."

In Functional Heart Affections:	*In Organic Heart Disease:*
Præcordial dullness on percussion is not permanently *extended*, nor the *apex displaced.*	*Præcordial dullness* in enlargement is permanently *extended*, and the *apex crowded* to the *left.*
The *impulse* in *plethora* is strong *bounding;* in *irritation*, smart *knocking;* in both, widely jarring; in *debility*, small, soft *tapping*, sometimes *hurried.*	The *impulse* in *hypertrophy* is strong, broad *heaving;* in *dilatation*, weak, wide *flapping;* in both together, strong, large *bulging;* in all with *extended dullness.*
The whole *movement* of the heart is more *elastic*, *light*, or *easy.*	The whole *movement* of the heart is more *dead*, *clumsy*, or *labored.*
Functional murmurs are *soft blowing*, *aortic* and *systolic;* are from *anæmia*, and usually with the venous hum in the neck.	*Organic murmurs* are *harsher*, *louder*, often *grating*, *aortic* or *mitral*, *systolic* or *diastolic*, or both, and very rarely with *anæmia* or venous hum.
Functional is more *paroxysmal.*	Organic is more *uniform.*
Active exercise is often well borne, and benefits.	Active exercise always *aggravates.*
The *causes* are mainly *dyspepsy*, *anæmia*, *plethora*, *nervous* or *sexual derangement.*	The most common *causes* are, first, *rheumatism;* and next Bright's disease.

The diagnosis of protracted valvular disease, though liable to a little uncertainty from a few rare imitations of some of its murmurs by merely calcareous roughening of the aorta, is *generally* much more easy than that of recent cases, from less liability to be confused by the friction or churning sounds of acute pericarditis; while with longer duration, as the above list shows, the murmurs, as a rule, become more *distinct* and *harsh.*

We may account for this mainly by the tendency of thickening and other changes consequent on rheumatic endocardial inflammation to become gradually hardened by time, and to degenerate or mingle gradually with either cartilaginous and calcareous, or, to use a more common term, with *ossific deposits.*

Although Dr. Hope discourages the views of Laennec, Bouillaud and others, that the character of murmurs is any certain test of the nature of the morbid change, yet a careful inspection of the above list leads to the view, that, as a rule liable to occasional exceptions, we may adopt the following standard from the very recent observations of M. Forget.*

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* *Pathologie und Therapie.*

Induration.	*Murmur.*
Inflammatory.	Soft.
Fibrous or cartilaginous.	Harsh (*rude.*)
Osseous.	Very harsh.

Diastolic Murmurs, from the want of propelling force, are much more feeble than the systolic or contractile, on the same principle that murmurs sometimes cease altogether in the last stages of heart disease from absolute weakness of the organ.

Pulmonic Valvular Disease only occurs once in hundreds of cases, and, in the very few instances on record, it has sometimes been characterized by a superficial murmur from the middle of the sternum to the junction of the second rib.

Tricuspid Valvular Disease, beside being much less frequent than aortic or mitral, is generally characterized by the *pulsation of the jugulars* and swelling of the veins of the neck being easily recognized. Murmurs are generally absent. In the rare instances in which tricuspid murmurs are present, they are soft—to the middle or right of the sternum, heard lower down than aortic, sometimes even near the xyphoid cartilage.

We have met with pulsation of the jugulars, but never with a tricuspid murmur. Excluding then, in practice, murmurs of the right valves of the heart as almost never occurring, except in the few rare cases when attended by the plainly visible tricuspid pulsation of the jugulars, we are practically narrowed down to those of the valves of the left side of the heart, and the following murmurs, for some of which, for brevity, we coin new terms.

Left, or Ordinary Valvular Murmurs.

STERNAL OR AORTIC.	APEXIAL OR MITRAL.
Are loudest usually over the *right edge* of the sternum, or the junction of the second rib, or more rarely at the *left edge* of the sternum below the third rib.	Are loudest invariably over the apex of the heart, toward the left nipple.
Obstructive, are usually loud with the *first sound* of the heart, are common; and sometimes heard in the carotids.	Obstructive, are always soft, faint, with the *second sound* of the heart, and rare. No mitral murmurs are ever heard in the carotids.

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* *Prècis Théorique et Pratique des Maladies du Cœur.* Strasbourg, 1851.

Regurgitant are with the second sound of the heart,—and common.	Regurgitant, are usually distinct, always with the first sound of the heart,—and common.
Both obstructive and regurgitant are with both sounds, or a double sawing murmur.	Are more frequently with a purring tremor.
As a class are harsher, and more superficial.	As a class are more liquid, or soft and deep.
Are usually with a harder pulse—when regurgitant often thrilling or wavy, and with a vermicular motion of the superficial arteries.	Are usually with a softer, smaller pulse, often intermittent, and never with a visible waving of the arteries.
Have usually a fresher or more florid face, sometimes with a bright staring eye.	Have usually a more livid and "puffy" face.
Have commonly a stronger impulse.	Have commonly a feebler impulse.

Prognosis.—The greater part of this discussion, treating only of the most propitious class of cases, has necessarily all along involved more or less this topic. Hence we may be brief. If the above list be a fair representation of this class, every feature not usual in all other classes that predominates in this is *favorable*, and every ordinary symptom, complication or variety of valvular disease in general, which is less frequent or wanting in this, is in a corresponding degree *unfavorable.*

Let us make, if possible, a fair estimate of all varieties of valvular disease, usually prevalent. Dr. Barclay, in a very able paper, in the *Medico Chirurgical Transactions*, founded upon careful examinations of seventy-nine cases in St. George's Hospital, infers that rheumatic cardiac inflammation is rather more apt to affect the aortic and mitral valves simultaneously than either singly. We may blend his estimate with others as follows:

VALVES AFFECTED.

Authority.	Aortic and Mitral.	Aortic alone.	Mitral alone.	Total.
Dr. Barclay,	36	26	17	79
Dr. John Reid,	6	17	9	32
M. Forget,	10	9	10	29
	52	52	36	140

These observations were all made in large hospitals, and it must be borne in mind refer mainly to the acute class of cases. Several years later, M. Forget stated, he had largely repeated his researches with about the same numerical results. In 1844, in a paper read before the Royal Academy of Paris, he remarked that in several hundred cases he had met with one instance of tricuspid disease; and Dr. Reid only met one in thirty-three cases, while Dr. Blakiston, by very nice measurements among the operatives of Birmingham, professed to have found fifty-four tricuspid cases to fifty-seven mitral. The truth is probably between these extremes. Not one of Dr. Blakiston's cases lasted three years. The four we have enumerated above have a low average duration. Admitting, then, that the three classes first named are about equal, it follows, that if the aortic are doubly as numerous in the protracted list as either of the others, that *aortic valvular disease in general is the most favorable form.* This rule is modified in a few instances by hypertrophy. Where little or no enlargement is produced by the valvular disease, it is a sign the latter acting, as the cause is slight. Hence the most favorable of all cases, either aortic or mitral, are those with *least* increase in the size of the heart. When hypertrophy is rendered necessary by the extent of the valvular lesion, the heart must be strengthened and enlarged to relieve the embarrassed circulation. It often acts as a compensation and benefit in serious aortic disease, while the increase of force only increases mitral regurgitation and consequent danger of pulmonary congestion. Hence hypertrophy is much better borne in aortic than mitral disease.

The clinical enumeration of valvular affections, as we have before hinted, differs somewhat from the anatomical. The more rare cases of tricuspid disease are commonly easily recognized by the jugular pulsations. But it is almost impossible to distinguish accurately during life, the compound aortic and mitral cases, for the reason that the principal disease and the *murmurs* are generally confined to one, while the other is often but slightly affected and gives no murmur. The seven aortic and mitral cases mentioned in the above table, if judged during life by murmurs alone, would probably have been about equally divided between aortic and mitral. For prognosis at the bed-side living signs only are available; and a nice calculation from the above list will show that this last practical division would not have materially affected the chances of a patient. When the longest average probable limit of the most promising class is only about ten years, the term "favorable" is but relative. With this understanding, without waiting to detail the facts and reasonings on which they depend, we may lay down a few general rules liable to some excepceptions, under the simple clinical division indicated.

PROGNOSIS OF VALVULAR DISEASE.

Most Favorable	*Less Favorable.*	*Unfavorable.*
Slight aortic obstruction.	Aortic obstruction and regurgitation, with very large hypertrophy or dilatation.	Mitral obstruction.
Slight stationary mitral regurgitation, with little or no enlargement.	Especially *free* mitral regurgitation, with large hypertrophy, or dilatation.	Tricuspid disease,—especially when combined with left valvular lesions.
Face unaffected, or a little florid.	Face slightly livid.	Face very livid, or *cachectic*.
Freedom from pulmonary congestion, hemorrhage or dropsy.	*Severe* pulmonary congestion, hemorrhage, apoplexy, anemia, dyspepsia, or *dropsy*.	*Brights disease*, (*very*) or enlarged liver.
Avocation healthy, with gentle exercise. without straining or excitement.	Avocation unhealthy, with violent straining or excitement.	Simultaneous aortic and mitral murmurs, or plain signs *during life* of disease of more than the aortic or mitral valves *alone*.

Anatomical Characters and Cardiac Complications.—Ossification, or calcification, as it is latterly termed, occurred in thirty cases examined,—at the aortic valves twelve, and the mitral seven times. Other changes were represented as follows:—"Cartilaginous" aortic, 3; mitral, 1; "thickening" mitral, 4; aortic, 2; "vegetations" aortic, 1; mitral, 1; "induration" aortic, 1; "inversion" aortic, 1. Contractions of the orifices were,—Mitral, 5; pulmonic, 1. All the cases of extensive hypertrophy were, of course, combined with dilatation. "Large hypertrophy" was thus represented,—Aortic alone, 13; aortic and mitral, 5; mitral alone, only 2. "Moderate hypertrophy" stood,—aortic, 2; mitral, 1; tricuspid, 1; pulmonic, 1; extensive "dilatation" aortic, 2; aortic and mitral, 2; mitral, 1.

Right hypertrophy occurred only four times, and right *dilatation* alone only once, and in each there was either mitral contraction, tricuspid regurgitation, or pulmonic constriction. Adhesion of the pericardium, more or less extensive, occurred no less than eight times. Thus it appeared that the most frequent valvular lesion was calciferation, or ossification, which occurred in about two thirds of the cases examined. Dr. Barclay, in his analysis of seventy-nine cases of valvular disease, and one hundred and thirteen instances of atheroma in general, in the *Medico-Chirurgical Transactions*, found that fibrinous deposits occur almost exclusively under thirty-five years of age, while atheroma and ossification as certainly prevail after that period. The average age of the above forty-one cases being thirty-nine years, the prevalence of ossification may be thus explained.

Other Complications.—Dropsy was much the most prevalent in mitral disease, singly or combined; the numbers being,—Mitral, 4; mitral and aortic, 5; tricuspid, 1. Rather singularly, pulmonary hemorrhage occurred in aortic four times, and only once in mitral; while pulmonary inflammation in different forms occurred seven times, mainly in simple or complicated mitral disease.

In more rapidly fatal cases, Dr. Blakiston found that of twenty-seven deaths in valvular disease from pulmonary congestion twenty-four had "incompleteness of the mitral valves." Enlargement of the liver, so frequent in more rapid cases, is only mentioned once. Bright's disease also complicated but a single case just at the close.

Apoplexy occurred once only in aortic disease and palsy three times,—one aortic, one mitral, and one pulmonic. Angina pectoris was one aortic, and one aortic and mitral. The other complications were briefly,—deafness, 1; enlarged spleen, 1; atrophied liver, 1; dyspepsia, 1; scrofula, 1; sciatica, 1.

Results.—Eleven of the forty-one cases were still living, of which seven were aortic and four mitral. The most curious problem was the manner of death. It is well known that a very general impression prevails that the *majority* of cases of disease of the heart die suddenly.

In this enumeration we mean by "sudden death" those examples in which the patient is tolerably comfortable, able to exercise and *leave his room*, and, without any particular warning, falls or faints and expires.

By "gradual sinking," we mean those instances in which pulmonary congestion, dropsy, or some other complication, by degrees weakens and warns the patient till he is *confined to his room*, and sinks more slowly in death.

Of twenty-three cases in which the manner of death is recorded, only seven died "suddenly," while the remaining sixteen cases all "sank gradually." Of the examples of sudden death, there were,—Aortic, 5; and aortic and mitral ("mainly" aortic) 2. The instances of gradual sinking were,—Aortic, 4; mitral, 3; aortic and mitral, 5 (three mainly mitral); mitral and tricuspid, 1; mitral, aortic, and tricuspid, 1; tricuspid, 1; pulmonic, 1. So far as this limited number warrants, we may draw the important practical inference that the proportion of *less than one third died suddenly*—that every one of these sudden deaths was connected more or less with *aortic valvular disease.*

No less than eight cases of the gradual deaths, or two thirds, were more or less connected with *mitral disease.*

We can account for the frequency of the sudden termination of aortic disease, by recollecting the frequency with which it interferes with the functions of the brain, rapidly overcharging with apoplexy, or more frequently cutting off its supply of blood by fainting, from which the patient never recovers. Mitral disease and lesions of the right heart, on the contrary, kill more slowly, by congestion of the lungs and dropsy.

We may lay it down as a rule, perhaps, that while the average chances for longer duration of life are somewhat greater in aortic disease, the probabilities of sudden death are also *increased.*

Treatment.—We cannot close this plain, practical article, without a few thoughts on this topic, so interesting to the earnest practitioner. It was found impossible to compress the details of the management of the above cases, for many years, into any convenient form. So we venture a few comments from general observation. It will be remembered we are considering but a single class of heart affections, for which nature does most, and art the least. And when Nature is doing her work well, the greatest favor is to let her alone. We have managed cases of protracted valvular disease for years, simply by careful regimen. Yet, contingencies sometimes arise when it is necessary to interfere more actively, and we may briefly consider our agents.

Depletion in protracted valvular disease is very rarely allowable, on account of the tendency to sudden death by syncope, or subsequent anemia; general bleeding, often of great service in acute cardiac inflammation, is scarcely ever well borne. We remember an intelligent Vienna friend, who, from long observation in the chest ward of its immense *Algemeine Krankenhaus*, declared that a single injudicious bleeding was often the commencement of the "decline and fall" of cases of valvular disease, leading to dropsy or sudden syncope.

In the apoplexy, pneumonia pleurisy or pulmonary congestion, sometimes arising as secondary affections, if the *impulse* is firm we may deplete cautiously, always preferring, when adequate, cupping or leeching. Dr. Chevers has laid down an excellent rule, that we may observe the same caution in depletion in the secondary inflammations and congestions of heart disease, that we would in those of tubercular consumption. It is sometimes good to deplete locally, while we support generally. Ought we to strive by depletion to diminish the hypertrophy which nature has established to relieve the embarrassed circulation ? We believe not—unless danger to life from injury to other organs is actually present, and the strength of the impulse permits. The cases mentioned by Dr. Hope and Laennec as relieved by repeated small bleedings, cupping, and low diet, were probably simple hypertrophy, with little or no valvular disease. Dr. Latham seems to think these were cases of congestion, or "mock hypertrophy." On account of the tendency to syncope in aortic disease, as a general rule, we think that mitral difficulties with a sufficient impulse bear depletion best. On account of the fright and shock of cupping, we prefer the repeated application of two or three leeches at a time over the heart, if necessary, to moderate its violence.

Alteratives.—Can we change or absorb the firm or indurated deposits of valvular disease by mercury, iodide of potassium, or any medication ? We think not. Blue mass., taraxicum, and the iodide of potassium guarded with vegetable bitters and tonics, will sometimes relieve, temporarily, the torpid and congested liver, sometimes the result of disease of the heart.*

Counter-irritation.—Slight irritation with croton oil, or the application of a blister, the size of a cent, dressed with belladonna ointment, will sometimes relieve a painful and irritable heart. But there is an objection to powerfully directing the morbid mind of the patient to that spot. An issue upon the arm near the insertion of the detoid will sometimes benefit.

Sedatives.—Digitalis, rather extravagantly termed by Bouillaud the "opium of the heart," in acute inflammation of that organ, must be used with the greatest caution, and watched very closely; in chronic valvular difficulties, on account of the tendency to produce fatal depression and syncope, we prefer, generally, to economize and guard it by the addition of the tincture of henbane, or hop, with preparations of iron or bark. A very good form is, equal parts of tincture of digitalis, hyoscyamus, and iron, of which, half a dram may be taken three times a day. In dropsy, as we know, it operates best as a diuretic in the form of infusion. Like bleeding, we think digitalis better borne in mitral disease, with sufficient impulse, than aortic. Hyoscyamus, conium, and lupuline in different forms, combined with bitters and tonics, have at times been serviceable in quelling the irritable heart. Dr. Walshe speaks very highly of the tranquillizing effects of the eighth of a grain of the extract of aconite three times a day. Great relief is sometimes obtained from the free use of belladonna ointment over the heart three or four times a day. We frequently combine equal parts of the extract with stramonium ointment.

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* The rheumatic muscular pains of the chest, sometimes located about the heart in these cases, are best relieved, so far as we know, by giving four or five grains of the iodine of potassium with ten drops each of the wine of colchicum and the tincture of hyoscyamus, and a drachm of the tincture of cinchona in an aqueous mixture, three times a day, well diluted.

Diuretics.—In the dropsy sometimes supervening, infusion of digitalis, economized and qualified by the tincture of squills, and guarded by bark, iron or other tonics, may be cautiously given. In edema and hydrothorax five grains each of the iodide of potassium and the extract of taraxicum with a drachm of the tincture of bark, in an aqueous mixture, three times a day, well diluted, are very serviceable.

Stimulants.—Persons affected with cardiac affections, are specially subject to attacks of fainting, and palpitation, with a sense of sinking, brought on by a little imprudence in diet, by over exertion or mental excitement. We know of nothing better for these than the ordinary stimulants, Hoffman's anodyne, brandy or ammonia.

Tonics. —Allowing for a proper excess above the natural standard, to carry on the embarrassed circulation, as we have before hinted, we believe that the *impulse is the true pulse of the heart*, giving us in urgent complications, with certain allowances, the best guide for depletion, soothing, or support. Especially when the impulse is feeble, tonics are always required. When it is remembered how large a proportion of the above cases either died suddenly, probably from syncope, or were worn out and debilitated, as described by the phrase " sank gradually; " it will be seen how largely, when any treatment is required, a tonic course should generally prevail in protracted valvular disease. The experiments of Weber and Lombard have shown that strychnia locally applied, produces tonic contraction in the heart of the dead frog. From considerable experience we venture to recommend it—to paraphrase the rather enthusiastic expression we have just quoted, —as the *tonic of the heart.*

It should be given, as in some forms of epilepsy, in very minute doses, long-continued. We prefer giving it in from one fourth to one half the usual quantity, or from the eightieth to the fortieth of a grain, continued for weeks and months. It gives tone to the faltering organ, and especially relieves atonic dyspepsia, often so troublesome, and gives the patient new appetite and spirits. The most convenient and equal form is either a solution of one grain of strychnia to six drachms of water and two drachms of acetic acid, or, what is sometimes better in dyspepsia, from its vegetable bitter, the strong tincture of nux-vomica. Either may be given alone, in doses of from five to fifteen drops three times a day in water. They may be combined with preparations of iron or other tonics. Next to this, especially in anemia, or passive congestion, we trust in preparations of iron. Gentian, columbo, cinchona, and all the usual list may be exhausted if necessary. The avoidance of undue mental excitement or violent muscular exertion, great care in using nutritious easily-digested food, gentle walking, or carriage exercise, are all necessary.

As a rule, we are convinced that protracted valvular disease is commonly over-treated. Like its neighbor, the stomach, the heart is often unnecessarily persecuted. We believe it a safe, honest rule in medicine, and especially in these affections, when *nothing is to be done to do nothing.*

CONCLUSIONS.

The careful consideration of these forty-one cases of the most favorable and protracted examples of different forms of valvular disease of the heart, impartially selected, tends more or less to establish the following recognized, or new propositions:

1. That in protracted valvular diseases, aortic lesions are twice as numerous as any other class; aortic obstruction alone and aortic obstruction with regurgitation nearly equally divided, forming about one half; mitral regurgitation nearly one fourth; aortic and mitral combined, one sixth; and simple or complicated affections of the right valves, about one eighth.

2. That owing to the excess of three males to one female in the large aortic class, two thirds of the whole were males; and that the average age of the whole, rejecting fractions, was thirty-nine years; of the aortic alone, forty years, and of the mitral alone, thirty-two years.

3. That in both ability for exertion and *duration*, the aortic on the whole excelled; each being greatest with either slight aortic obstruction or limited stationary mitral regurgitation, with the *least hypertrophy ;* enlargement being best endured in the aortic class; and that the average duration of the forty-one cases reached the extraordinary term of nine years; nine with aortic obstruction averaging ten and a half years; eight with aortic obstruction and regurgitation, eight and a quarter years; seven of aortic and mitral combined being ten years; and three of right and left valves simultaneously, being four years.

4. That of twenty-nine cases in which the causes were mentioned, twenty, or about two thirds, were from rheumatism, four from pneumonia, or pleurisy, and none from Bright's disease.

5. That the *aortic* differed from the mitral in having, more often, florid face, bright protuberant eye, jerking, thrilling, or firm pulse, precordial bulging and pain, strong impulse, harsh grating or sawing murmurs *always sternal*, more frequent and large hypertrophy, and more cerebral complications; while the *mitral*, on the contrary, were more liable to a livid or puffy face, softer, smaller and more intermittent pulse, feebler impulse, more liquid murmurs *always apexial;* less hypertrophy, and more frequent pulmonary complications and dropsy.

6. That in *Prognosis*, from their presence or absence in these cases, were variously rated, with some exceptions, the following characteristics: *most favorable*, slight *aortic obstruction* or limited stationary mitral regurgitation with little or *no hypertrophy*, a natural or florid face, and a healthy easy avocation; *less favorable*, aortic obstruction and regurgitation, or *free* mitral regurgitation with large hypertrophy, excessive pulmonary congestion or dropsy, and an unhealthy straining or anxious avocation; *unfavorable*, mitral obstruction, tricuspid with left valvular lesions, or disease of any two sets of valves sufficient to produce murmurs from both during life; Bright's kidney, a livid or cachectic face, or enlarged liver.

7. That eleven cases at the time reported were still living; and that of the thirty fatal cases only seven—all purely or mainly aortic—were mentioned as dying "suddenly;" while sixteen, principally mitral,

"sank gradually;" and that in the thirty post-mortem examinations, beginning with the most frequent, there were found the following cardiac pathological changes: hypertrophy with dilatation, ossific deposits or calcification, adherent pericardium, valvular thickening, cartilaginous induration, and vegetations.

8. That in the treatment of *protracted* valvular disease, we must avoid as far as possible thwarting the restorative operations of nature, by depressing with bleeding or digitalis; these, when required by dangerous complications or secondary inflammations, being used cautiously as in pthisis, and on account of less liability to fatal syncope, being best borne in mitral disease with sufficient impulse; that many cases only require careful regimen for years; that allowing a certain excess above the natural standard to carry on the embarrassed circulation, the *impulse is the true pulse of the heart*, indicating, especially when feeble, the need of support; that when any interference is necessary, tonic and soothing remedies are far the most frequently required; and that the most valuable tonics to sustain a failing heart are first, *strychnia* or *nux-vomica*, in from one fourth to one third the usual minute doses long-continued, and next, preparations of iron with mild sedatives and bitters.

PART SECOND.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Diagnosis of Tumors within the Cranium.—Dr. Friedreich has recently published a very interesting monograph on this subject, containing the particulars of 45 cases of intracranial tumors, 11 of which were observed by himself; and on these he has founded some valuable remarks as to the mode of their diagnosis. The following is a brief resumé of his observations on these points. He considers

1*st. The General Effects of Intracranial Tumors.*—Various derangements of sensibility occur. One of the most constant of these is *headache*, which is especially frequent in the early stages of the disease. The cephalalgia is remarkable for its persistence and intensity; it may be either continuous or intermittent; and it may be accompanied by *vertigo* and *vomiting.* Its site does not always indicate the place of the new growth. The organs of special sense may be affected; the *sight* becomes impaired on one or both sides; there may be *strabismus;* and the *hearing* generally suffers more or less. The minor grades of *paralysis* are common. The length of interval between the initiatory headache, and the occurrence of the paralysis, constitutes the most characteristic mark of these intracranial tumors. *Convulsions* and *spasmodic conditions* occur in one half of all cases; and the former often assume an epileptic type. The *mind* is always more or less affected; its diseased condition generally commencing with *loss of memory.* All these symptoms are very inconstant and variable; they are also liable to alternate remissions and exacerbations, which probably are due to the occurrence of transitory congestions either of the tumor or the cerebral substance, or perhaps of both together. The course of intracranial tumors is always chronic. Friedreich never new a case to be shorter in duration than 6 weeks, or longer than 14 years.

2*d. The Special or Differential Diagnosis of Intracranial Tumors.**—(*a*) Those situated in the *cerebral hemispheres* (18) are generally accompanied by obstinate headache (14); nausea and vomiting (9); by derangements of the motory functions (14); consisting of more or less extensive paralysis, and of convulsions which assume an epileptiform character. When hemiplegia occurs it is sometimes crossed (*gekreuzt*), and sometimes not; but it constantly occurs on the affected side. Derangements of the special senses are common (10), especially of sight (7); and intelligence is often impaired (11). In a few exceptional cases there are no headache or alterations of the motor functions.

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* The numbers placed above in brackets refer to the number of cases, among those examined by Friedreich, in which the particular symptoms were present. —*Translator.*

(*b*) *Tumors of the base of the cranium in the neighborhood of the pons*, occasion the following symptoms:—(9) headache, (8) almost always frontal; impairment of vision (7), commonly also of hearing and taste (5), and in some cases (3) of smell. All these symptoms, due to loss of power of the facial nerves, occur on the same side as the tumor; but paralysis of the extremities, when it occurs, affects the opposite side of the body. *Complete* hemiplegia and paraplegia are not very common; and convulsions occur less frequently than with the former class of tumors, and are not epileptiform. An important sign of these tumors is afforded by the great multiplicity of the existing sensorial disturbances, and the tendency of the optical derangement to become bilateral. The mind is sometimes affected (5).

3*d*. *Tumors of the Pituitary Region.*—Friedreich only saw 1 case of this. There was frequent frontal headache, often with pain in the orbit; and double amaurosis. There is rarely any disturbance of the motor functions.

4*th*. *Tumors of the anterior part of the Base of the Brain.*—Two cases were examined. The symptoms resemble those just mentioned.

5*th*. *Tumors of the Peduncles of the Cerebrum and Cerebellum.*—Paralysis of the face and extremities, occurring on the side opposite to that on which the tumor was situated, was observed in 3 cases. This makes tumors thus situated resemble those of the hemispheres. Complicated derangements of the nerves of special sense and of the face (as the oculo-motor and trifacial), were seen in two cases. This, on the other hand, approximates these tumors to those of the base.

(*f*.) *Tumors of the Cerebellum* (8) had the following signs:—violent cephalalgia (7), often intermittent, and combined with vomiting (4); and situated in the occipital region (4). *Occipital* headache may be considered to be pathognomonic here, as it occurs in the case of no other intracranial tumors. Pain at the nape of the neck, increased by pressure, may exist. In one case there were no peculiar symptoms; and in none of the cases of tumors of the cerebellum were the generative functions at all affected.

(*g*.) *Tumors of complex situation.*—Correct diagnosis is here impossible.—*Beiträge zur Lehre von dem Geschwulsten innerhalb der Schädelhöhle. Würxburg*, 1853.—*Edinburgh Monthly Journal, March*, 1855.

Non-Identity of Typhus and Typhoid Fever.—Although typhus and typhoid fevers resemble each other very much in their external appearances, Professor Forget, of Strasburg, believes that they are clinically and essentially different in their nature. They are anatomically different; they are not equally frequent in their occurrence; and typhoid fever may arise from many causes, quite irrespective of infection. In follicular enteritis, the typhoid condition is not constantly present, and it is usually secondary; while in typhus, the prostration and stupor attending its invasion indicate a powerful intoxicating principle, acting primarily as a poison, which is not usual at the commencement of the typhoid state. Gastro-intestinal symptoms are more constant and primitive in typhoid than in typhus fever; for in it they are occasionally found existing alone; and we very rarely see cases of follicular enteritis which do not present the rough (*saburral*), punctulated, and rosy tongue; also *gargouillement* and pain in the right iliac region, and either diarrhœa or constipation. Though other symptoms may coexist with them, they are never wholly obscured. In typhus again, especially at its outset, the tongue is frequently moist, smooth, and white; meteorism and abdominal pain are absent, and there is no derangement of the process of defecation. If we except the rosy, lenticular spots peculiar to typhoid fever, and which constitute, according to M. Forget, its most constant differential sign, there are no symptoms in general connected with either malady which are not purely accessory and inconstant. Typhoid fever is usually slow and gradual in its course, and in simple, uncomplicated cases, its evolution is in exact ratio to the development of the intestinal lesion. In typhus, on the other hand, the disease is very violent at first, and afterward becomes suddenly or alternately better or worse, and often in those cases which appear the most unfavorable, it advances rapidly and spontaneously to a favorable termination. Ataxia characterizes it more than it does typhoid fever.

As regards the treatment of the two diseases, Professor Forget says that while, in typhoid fever, this must always be adapted to the peculiarities of each particular case, special attention must be paid to the intestinal ulcerations which are present during its course, and that all those medicines should be avoided which are calculated to aggravate these lesions of the alimentary canal. There is no need for this caution in cases of pure typhus.—*Gaz. Med. de Paris.*

The Cracked-pot Sound not Always Indicative of a Cavern. By Dr. Bennett.—According to Skoda, "the cracked-pot sound is heard in the thorax, over tolerably large and superficially situated cavities which contain air, and communicate with the bronchial tubes. When the percussion is forcible, or the thoracic walls flexible, the cavity is compressed at each stroke, and a portion of air suddenly driven out of it into the bronchial tubes; this hissing murmur, caused by the escaping air, is mixed up with the ordinary percussion sound of cavities, and this compound represents the cracked-pot sound." But the observation made in the case of M'Kay, has satisfied me that occasionally distinct cracked-pot sound may be elicited over condensed lung, without any cavity whatever. In referring to an excellent paper on this subject by Dr. Markham, I find that on one occasion both he and Dr. Sibson have noticed this phenomenon, over the upper portion of a lung which was afterward shown to be gorged with blood and serum, though still retaining some portion of air. It would seem, from what has been said by Skoda, Stokes, Walshe, as well as by Dr. Markham, that a peculiar tympanitic sound may be heard over collapsed or condensed lungs, when covered or mingled with a certain amount of air. For instance, when in cases of pleuritic exudation, air is effused into the pleura, a few hours before death, when in certain cases of pneumonia there is also emphysema, etc. In the case I have alluded to, these conditions were so far fulfilled, that the tubercular mass described was surrounded by spongy lung full of air. At all events, it must be evident that the physical conditions on which this peculiar sound depends, require more careful study, and that our ideas as to its necessary connection with a cavity, must undergo modification.—*Monthly Jour.*

Phosphorus in Paraplegia.—I have given phosphorus in seven cases of paraplegia from disease of the spinal cord, in the form of phosphuretted oil (4 gr. of phosphorus dissolved in ℥j of olive oil.) In none of these cases have I been able to satisfy myself that any improvement was occasioned. I commenced with three drops a day, which were afterward cautiously increased to ten, and in one case to fifteen drops. But these large doses soon induced violent nausea and vomiting, and, after a short suspension of the remedy, I have continued it in doses of three drops.

In the case of chronic myelitis, which took ten and fifteen drops, the phosphorus was excreted by the lungs, as the breath smelt strongly of the drug, but was not phosphorescent at night,—a phenomenon which has been seen by some physicians who have employed it. In another case, that of a delicate woman, with probably congestion of the cord, a large amount of phosphate was passed in the urine, presenting, under the microscope, beautiful feathery crystals. The dose of the oil, therapeutically, ought never to exceed five drops, and even this amount cannot be administered for any length of time without deranging the stomach.

What is Pyœmia?—Dr. Bennett remarks (*Monthly Journal*) upon a case of Multiple Abscess following Articular Rheumatism:—If by pyœmia be understood that pus, as pus, enters the blood,—in other words, that the corpuscles of that fluid mingle and circulate with those of the blood,—the idea is erroneous. Such mingling of pus cells produce no such effects as are witnessed in these cases. In leucocythemia we observe the blood to be loaded with corpuscles, which, in all their physical characters, are identical with those of pus, and yet none of the supposed obstructions in the smaller vessels, and no multiple abscesses, ever occur. Nor when healthy pus is injected into the veins of a living animal, do these results take place, as has been proved by numerous experimenters, and of which I satisfied myself by some careful experiments, performed with Professor Barlow, of the Veterinary College of this city. But if by pyœmia be understood a morbid poison generated in pus, which, on its absorption, taints the system and leads to the secondary abscesses, then the idea seems to me to be correct. I think, however, it would be better, with Boyer, Bonnet, Darcet, and Berard, to speak rather of a purulent infection, than of a purulent absorption; for direct experiments prove that putrid pus produces the effect that healthy pus does not. Besides, we know that morbid pus of various kinds, when absorbed into the system, such as that of small-pox, glanders, syphilis, etc., not only induces the constitutional fever, but tends to the production of secondary collections of pus, whereby the poison is supposed to be eliminated. On the whole, a careful consideration of this difficult subject has led me to the conclusion that such cases as the one now recorded, are not owing to simple admixture of pus with the blood, or to phlebitis, but to the presence of a peculiar poison which contaminates the system.

Tracheotomy in Childhood.—M. Guersant remarks upon the increasing numbers in whom he is called upon to perform this operation at the Hôspital des Enfans Malades. Thus, in 1850 there were 10 operations; in 1851, 25; in 1852, 30; and in 1853, 60. M. Guersant concludes from these facts that croup is on the increase in Paris; a conclusion doubted by M. Denonvilliers, who ascribes these increasing numbers to the greater confidence of the public in the resources of surgery in such cases. As regards the success of the operation, M. Guersant remarks that out of 161 cases in which it was performed there were 36 cures; and it must be borne in mind that it was only performed as a last resource when asphyxia was considered to be imminent. The rest of the treatment was much the same as is usual in this country. M. Guersant also frequently employed cauterization of the larynx, but considers that this treatment does not deserve the credit it has attained.

M. Archambault directs attention to a peculiar phenomenon which frequently attends on recovery in those cases of croup in which tracheotomy is performed. As soon as the glottis is free from false membranes, it is observed that the infant, in swallowing, is extremely apt to be distressed by the passage of fluid matters into the larynx. This difficulty of deglutition has occurred in the practice both of M. Trousseau and of M. Guersant. The former attempts to remove it by giving only solid or semi-solid food: the latter proposes in extreme cases to pass the œsophagus-tube. M. Archambault recommends a simpler method. He removes the canula, and applies the thumb very firmly over the opening. When the child has made several respirations, and these have become regular and natural, he allows it to drink, after directing its attention to the necessity of caution. In this way drink can be taken. M. Archambault considers that this difficulty of deglutition depends on an impaired sensibility of the glottis, and a want of harmony between the act of deglutition and respiration, owing to the artificial manner in which the latter has been effected through the canula. He has not witnessed this symptom except when the respiration was notably accelerated.—*L' Union Médicale.*

Treatment of Salivary Fistula.—M. Rodolfi has devised, not a new method, but a new process for the cure of salivary fistula, which merits by its simplicity and successs precedence over all other means. A man, æt. 28, robust, was operated upon in July, 1853, for a cyst situated upon the duct of steno. Three days after the operation there was an escape of saliva from the wound. Methodical compression with compresses and bandages was resorted to, which gave rise to a painful tumor on the parotid region, and had to be discontinued. The twisted suture was then used on a silver needle; but on the fourth day the saliva again escaped. A steel spring was next used to maintain the lips of the wound in apposition; this the patient could not endure. Finally collodion was applied to the fistula, two drops being used, which remained after the evaporation of the ether like an artificial skin, and by its contraction approximated the edges of the opening, and prevented the escape of a drop of fluid. The following day an additional coating was applied, and on the eighth day the cure was completed.—*Gaz. Med.*

Tuberculous Testicle treated with the Paste of Chloride of Zinc.—By Dr. Philippeaux, of Lyons.—With the exception of cancer, it is in the different forms of surgical diseases due to a scrofulous constitution that the paste of the chloride of zinc appears to produce the most favorable results. Caustics may be employed in lesions of this nature to fulfill two distinct indications:—1, destruction of altered tissue; 2, to give to subjacent parts sufficient vitality to undergo cicatrization. This latter indication is without contradiction the most important in the local treatment of alterations of a scrofulous nature, and it is well known how difficult it is to overcome that tendency to immobility which is characteristic of these affections. The principal circumstances in which cauterization by chloride of zinc has appeared to M. Bonnet to produce good results are,—superficial tuberculous glands, old fistulous tracts, fungous ulcerations, sloughing of skin consequent upon cold abscesses, superficial caries, &c. In cases of this kind superficial cauterizations more frequently produce a sufficient degree of local reaction; but if the tissues are profoundly altered it is often necessary to act with more energy. The following observations, to which many others might be added, afford an example of the happiest results which follow cauterization in cases of this nature:—

In a young man, æt. 21, of a highly scrofulous constitution, the right testicle presented the following alterations:—its size is nearly that of the fist; it is hard, and presents at different points an indistinct fluctuation; three fistulous tracts, which have opened within two months, discharge grumous matter. The disease is of six months duration, the tumor being developed without pain. On the 12th of April, 1851, M. Bonnet commenced the treatment by introducing into the fistulous tract a bit of chloride of zinc, which gave rise to extensive sloughing. On the separation of the eschar, another application of paste was made in the cavity produced by the caustic, which extended even into the substance of the testicle.

By this second application the three points first attacked are united into one deeply-sloughing surface ; it then became easy, by removal of the eschar, and successive applications of caustic, to accomplish the total destruction of the tumor. Three aplications of the caustic were still necessary, and, like the two first, gave rise to but a moderate degree of pain. The spontaneous falling of the last eschar took place April 25th; the wound resulting was completely closed on the 25th of May, the forty-third day after the first cauterization. No accident interrupted the treatment.

Paralysis of the Portio Dura from Tertiary Syphilis.—M. Roquette, a practitioner at Nantes, relates an example of this accident, the second which he has met with in the course of three years' experience of syphilitic affections. The first case was that of an old soldier, and was at once correctly interpreted. The second, however, in the person of a captain of a coasting vessel, was in the first instance treated unsuccessfully by a practitioner who, misinformed by the patient as to the venereal antecedents and accompaniments, ascribed the disease to one of its common causes, viz., cold, and treated it by local counter-irritation in front of the ear, purgatives, and leeches to the anus. The treatment of M. Roquette was by larger doses (ʒi per diem) of iodide of potassium, and a blister behind the ear, dressed with mercurial ointment; the cure was complete within six weeks.—*L'Union Medicale.*

Vinegar in Scabies.—Professor Le Cœur, of Caen, recommends for the cure of itch, forcible frictions of the parts affected, with a hard sponge, soaked in good vinegar, performed thrice daily so as to penetrate the skin and rupture the vesicles. He has tried this treatment with the most complete success in ten cases, the average length of the treatment being less than five days. He thinks this treatment preferable to all others on account of its speedy action—its inexpensive nature—its freedom from unpleasant odors, and its easy application. He suggests that similar results might probably be obtained by frictions with the mineral acids dissolved in water.—*Gaz. des Hop.*

Quinine in Phthisis.—Dr. Muntendam, a Dutch physician, has just published a paper to show that, from his experience in twenty-two cases, sulphate of quinine, given along with acetate of morphia, or even alone, is capable of prolonging the life of the patient in many cases of phthisis, and that it may even effect a cure in those cases in which a tubercular deposition has just commenced, especially in married women and children. He alleges that, when given continuously in small doses, it does not cause dyspnœa, diarrhœa, headache, or any disagreeable effects; and he believes that in very many, but not in all cases of phthisis, it should be ranked as one of the best remedies for the disease.—*Nederlandsch Lancet, and Gaz. des Hopit.*

PART THIRD.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Differential Diagnosis of Syphilitic and Non-Syphilitic Orchitis. By Thos M. Markoe, M. D., Surgeon to N. Y. Hospital. —In order to contrast the two affections more fully, I will give the main symptoms in each, so that the data for a differential diagnosis may be compared at a glance. Thus, the—

Syphilitic form,	*Non-Syphilitic form,*
1. Begins in testicle.	1. Begins in epididymitis.
2. Smooth and regular.	2. Irregular and knobbed.
3. Hard and painless.	3. Less hard and more painful.
4. Scrotum unaffected.	4. Scrotum early adherent.
5. Both testicles involved.	5. Usually one only.
6. Hydrocele very common.	6. Hydrocele rare.
7. No suppuration or fungus.	7. Abscess or fungus common.
8. No glandular affection.	8. Glands of groin enlarged.
9. Venereal appetite gone.	9. Not ascertained.
10. Treatment successful.	10. Treatment unsatisfactory.

To complete the differential history of these two diseases, we may say that the syphilitic testicle tends finally, if not early cured, to produce atrophy of the organ; while in the chronic simple orchitis, the tendency is to the disorganization of the testicle by abscesses, sinuses, or its entire protrusion in the shape of the fungous testis. Lastly, the pathological anatomy of the syphilitic disease is found to be, according to Ricord, an effusion and partial organization of fibrine on the fibrous surfaces and compartments of the organ; while, according to Curling, there is always found in the simple chronic orchitis, an abundance of the yellow, gelatinous, unorganized material, both within and without the seminiferous tubes, which he considers as the peculiar pathological element of the disease, and which is undoubtedly fibrine in an aplastic or unorganizable condition.—*N. Y. Med. Times.*

Gastrotomy for the removal of a Leaden Bar.—By T. B. Neal, M. D., of Iowa.—The *Medical Examiner* contains a full report of the following case:—A man, æt. twenty-seven, while intoxicated, attempted, on a wager, to swallow a leaden bar 10 inches long and $\frac{3}{4}$ of an inch thick, weighing 1 pound. For three days after accomplishing his feat, he worked in a pork house, with but little inconvenience. On the third day he was seized with great pain in the stomach. On the fourth day he walked six miles to consult a physician. On the tenth day he labored under symptoms of gastritis, and the operation of gastrotomy was performed by Dr. Bell, of Wapello, after the administration of chloroform, by making an incision through the walls of the abdomen, from the umbilicus to the false ribs, four inches in length and two inches to the left of the median line. The peritoneum being divided, Dr. Bell introduced his hand, and pushing back the protruding intestines, found that the bar of lead was nearly perpendicular, the upper end inclining a little to the left. The bar was pushed up, until the lower end came opposite the abdominal opening. It was then seized, and an incision made in the walls of the stomach, just large enough to admit of its extraction by means of forceps. The contraction of the muscular coat of the stomach caused the incision in the organ to close perfectly and without trouble. The external wound was stitched, and a compress applied. For the ensuing three days the system of the patient was kept under the influence of opium, and nothing but mucilaginous drinks, in small quantities, allowed as diet. He recovered as well as a patient does of uncomplicated gastritis. One month after the operation he had resumed his work.

Removal of the entire Body of the Uterus by the large Abdominal Section.—By Prof. E. R. Peaslee, M.D.—In the *American Jour. of Med. Sci.* for April we find reported a case of the removal of the whole of the body of the uterus by large abdominal incision. The patient died on the fifth day after the operation, from gangrene produced by strangulation of two hernial protrusions. The operation was undertaken for the removal of an ovarian tumor, the diagnosis of which was, to all appearances, very clearly made out. The mistake in the diagnosis, which the subsequent steps of the operation showed, was most certainly not a culpable one. On examination the tumor was found to be a fibrous growth, already softening and degenerating in its central portions. "It must have originated at the right side of the fundus of the uterus, and in its substance, though near its surface. Death, which occurred on the fifth day after the operation, appears to have been produced, not from the removal of the uterus, but from the complications of two hernial protrusions,—a small one near the lower end of the incision, and a larger near the upper end—produced by coughing and retching. These hernial protrusions had occurred the morning after the operation, in the absence of Dr. P.; and when examined they were livid, and covered with plastic exudation. A portion of the sutures were removed, and they were returned. The post-mortem appearances went to show that the gangrene extended from the portion of the bowels implicated in the hernæ, and thence to the peritoneum.

Self-adjusting Stethoscope of G. P. Cammann, M. D., of New York.—The stethoscope of Dr. Cammann presents an objective end, made of ebony, the extremity of which is about two inches in diameter, two tubes composed of gum elastic and metallic wire, two metallic tubes of German silver, two ivory knobs at the aural extremity, and a movable elastic spring, so arranged as to adjust it, and keep it in its proper position. The bell-like expansion of the objective extremity is two and a half inches in diameter, with a convolvulus excavation, gently curving outward, to present a rounded edge to the chest, in order to prevent causing pain to the patient. The bore of the instrument is two and a half lines in diameter, care being taken to have it made smooth and even. The tubes are made of German silver, with a double curve towards the aural extremities, which curves require to be constructed with great care, so that the ivory knobs may rest closely upon the external openings of the ears.* When applied, it is necessary that the orifices of the knobs should point upward. Some of the instruments are constructed with a spiral, and others with an elastic spring, as shown by the plate. Some of them are so arranged that they can be disjointed, to render them more portable.

One point, heretofore *sub judice*, is settled by this instrument, viz., that the sound is conducted entirely through the air, and not at all through the media, as these were, for experiment's sake, changed nine or more times, without affecting in the least the intensity of the conducted sound. On making the objective end solid, all sound was lost.

The advantages claimed for the instrument of Dr. Cammann, are:—

1. That being applied, it adjusts itself closely to both ears, excluding all external sound.

2. It leaves both hands of the examiner free.

3. It gives sounds pure, and greatly increased in intensity, though differing in quality from those hitherto afforded by auscultation, the pitch being lower. This intensity is produced by both ears being acted upon at once, by the ear-pieces of the instrument fitting closely into the meatus of both ears, and by the smoothness and careful construction of the bore of the stethoscope as to curves, etc., according to the law of reflected sound.

4. Sounds not heard through the instrument in common use can be detected by this.

5. Sounds which are doubtful by ordinary instruments are made perfectly certain. Even when disease is seated in the central part of the lungs, they can be detected, when the ordinary stethoscope will fail to render them recognizable. The same advantages are obtained in examining the morbid sounds of the heart.

The great increase of intensity of sound by this instrument renders it valuable to those with impaired hearing.

In the use of this stethoscope it is necessary that the chest should be uncovered, to prevent all friction between it and the clothes; otherwise the sound thus generated is conducted with such intensity as to embarrass the examiner. A short practice may be required to become familiar with it, in consequence of the increased intensity of the sounds produced by it, and the difference between them and those afforded by ordinary auscultation. Many of the recognized physical signs of thoracic disease will be so modified as to be new to the examiner, but a short experience will enable him to appreciate them, and give them their true value.—*N. Y. Med. Times.*

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* If any peculiarity of formation of the head of the observer prevents their thus resting, so as to exclude all external sounds, they should be carefully bent to give the required curve.

Paste of Allium Cepa as a Remedy for Epistaxis.–B. Rorer, M. D., of Germantown, has favored us with a communication in which he extols the efficacy of a paste made of the *allium cepa* in arresting atonic hemorrhage from the Schneiderian membrane.

The directions for making the paste are as follows :—

" Take the inner portions of the bulb of the *A. cepa*, or common onion, cut it fine, mix it with an equal portion of flour or bread crumbs, adding a sufficient quantity of strong vinegar to make a consistent paste." This paste is applied by pressing it into the nostril with the ball of the thumb till no more can be introduced, when the plug is to be secured by a bandage. Several cases are detailed illustrative of its efficacy, one of which we shall quote.

G. F., aged 44 years, a baker, was attacked, March 6th, 1847, with epistaxis without any premonition, while attending to his heated oven, and had lost, he stated, ten or twelve ounces of blood before Dr. Rorer saw him. Dr. R. had him placed in a cool room, washed his face and head with iced water, and injected the same into his nares, and afterwards solutions of alum and of the metallic salts. Alum and finely-powdered galls were then applied by means of a quill, and lastly plugging with lint wet with astringent solutions resorted to. At the same time twenty drops of muriated tincture of iron were given every two hours,—all without any avail. At this time a German named Seibert advised the onion paste, which was used with the effect of completely arresting the hemorrhage.—*American Jour. of Med. Sci.*

Consumption Hospital.—At the recent session of our State Legislature, a bill was passed chartering a Hospital for Consumption, in this city. Amongst the names of the trustees we notice some of our most influential citizens and distinguished physicians. This is an institution greatly needed in this community. We trust that measures will at once be taken to carry out the provisions of the charter. The passage of the bill was mainly due to the efforts of Hon. Geo. W. Bradford, a distinguished physician, and senator from the Cortland district.

☞ *Notice to Readers and Correspondents.* The unusual length of the Original Communications in this Number has crowded out the review promised, as also several communications, bibliographical notices, our usual variety of Foreign and American Selections, several editorial notices, etc.

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